# WEST Search History

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DATE: Wednesday, November 10, 2004

| Hide? | Set Name | Query | Hit Count |
|---|---|---|---|
| | *DB=PGPB,USPT; PLUR=YES; OP=OR* | | |
| ☐ | L41 | (UV or ultraviolet or visible or fluorescen$) and L20 | 12 |
| ☐ | L40 | mass adj spectrum and L20 | 5 |
| ☐ | L39 | (UV or ultraviolet or visible or fluorescen$) and l18 | 1037 |
| | *DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR* | | |
| ☐ | L38 | mass adj spectrum and L37 | 2 |
| ☐ | L37 | l18 and lebl.in. | 5 |
| ☐ | L36 | (UV or ultraviolet or visible or fluorescen$) and l26 | 1 |
| ☐ | L35 | link same MS and l26 | 1 |
| ☐ | L34 | (mask or masking or masked) and L33 | 0 |
| ☐ | L33 | amine and L32 | 1 |
| ☐ | L32 | L31 and l26 | 1 |
| ☐ | L31 | code same mass adj spectrum | 48 |
| ☐ | L30 | mass adj spectrum and l27 | 1 |
| ☐ | L29 | mass adj spectometry and l27 | 0 |
| ☐ | L28 | (sensitizing or sensitising) and l27 | 0 |
| ☐ | L27 | first adj linker and L26 | 1 |
| ☐ | L26 | 6475807.pn. | 2 |
| ☐ | L25 | l20 and (mass adj (spectrum or spectrometry)) | 7 |
| ☐ | L24 | (dual adj3 linker) same (mass adj (spectrum or spectrometry or spectometry)) | 0 |
| ☐ | L23 | first adj3 linker same (mass adj (spectometry or spectrometry or spectrum)) | 1 |
| ☐ | L22 | (dual adj3 linker) same (mass adj (spectrum or spectrometry)) | 0 |
| ☐ | L21 | l15 and L20 | 0 |
| ☐ | L20 | dual adj3 linker | 30 |
| ☐ | L19 | L18 and l15 | 7 |
| ☐ | L18 | l9 or L17 | 1798 |
| ☐ | L17 | separate adj5 cleavage | 385 |
| ☐ | L16 | l12 and L15 | 34 |
| ☐ | L15 | (first adj5 (cleavage or cleaved)) same (mass adj (spectrum or spectrometry)) | 35 |

| | | | |
|---|---|---|---|
| ☐ | L14 | l6 and l12 | 4555 |
| ☐ | L13 | l6 and l12L12 | 0 |
| ☐ | L12 | l9 or l10 | 107291 |
| ☐ | L11 | l9 or l10L10 | 1473 |
| ☐ | L10 | separate adj 5 cleavage | 107291 |
| ☐ | L9 | second adj5 cleavage | 1473 |
| ☐ | L8 | l2 and L6 | 7480 |
| ☐ | L7 | l4 and L6 | 5872 |
| ☐ | L6 | (first ajd5 (cleavage or cleaved)) same (mass adj (spectrum or spectrometry)) | 7791 |
| ☐ | L5 | s l2 and L4 | 9347335 |
| ☐ | L4 | (first ajd5 cleava$) same (mass adj spect$) | 10154 |
| ☐ | L3 | first ajd5 cleava$ same mass adj spect$ | 6578418 |
| ☐ | L2 | (second or separate) ajd5 cleava$ | 7106899 |
| ☐ | L1 | (second or separate) ajd 5 cleava$ | 14494297 |

END OF SEARCH HISTORY

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| | | | |
|---|---|---|---|
| NEWS | 1 | | Web Page URLs for STN Seminar Schedule - N. America |
| NEWS | 2 | | "Ask CAS" for self-help around the clock |
| NEWS | 3 | JUL 12 | BEILSTEIN enhanced with new display and select options, resulting in a closer connection to BABS |
| NEWS | 4 | AUG 02 | IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields |
| NEWS | 5 | AUG 02 | CAplus and CA patent records enhanced with European and Japan Patent Office Classifications |
| NEWS | 6 | AUG 02 | The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available |
| NEWS | 7 | AUG 27 | BIOCOMMERCE: Changes and enhancements to content coverage |
| NEWS | 8 | AUG 27 | BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC |
| NEWS | 9 | SEP 01 | INPADOC: New family current-awareness alert (SDI) available |
| NEWS | 10 | SEP 01 | New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! |
| NEWS | 11 | SEP 01 | New display format, HITSTR, available in WPIDS/WPINDEX/WPIX |
| NEWS | 12 | SEP 27 | STANDARDS will no longer be available on STN |
| NEWS | 13 | SEP 27 | SWETSCAN will no longer be available on STN |
| NEWS | 14 | OCT 28 | KOREAPAT now available on STN |

| | |
|---|---|
| NEWS EXPRESS | OCTOBER 29 CURRENT WINDOWS VERSION IS V7.01A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004 |
| NEWS HOURS | STN Operating Hours Plus Help Desk Availability |
| NEWS INTER | General Internet Information |
| NEWS LOGIN | Welcome Banner and News Items |
| NEWS PHONE | Direct Dial and Telecommunication Network Access to STN |
| NEWS WWW | CAS World Wide Web Site (general information) |

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FILE 'HOME' ENTERED AT 21:02:05 ON 10 NOV 2004

=> file medline biosis caplus embase wpids

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|

FULL ESTIMATED COST 0.21 0.21

FILE 'MEDLINE' ENTERED AT 21:02:22 ON 10 NOV 2004

FILE 'BIOSIS' ENTERED AT 21:02:22 ON 10 NOV 2004


FILE 'CAPLUS' ENTERED AT 21:02:22 ON 10 NOV 2004


FILE 'EMBASE' ENTERED AT 21:02:22 ON 10 NOV 2004


FILE 'WPIDS' ENTERED AT 21:02:22 ON 10 NOV 2004


=> (second or separate) (5w) (link or linker or cleavage or cleaved)
L1 9215 (SECOND OR SEPARATE) (5W) (LINK OR LINKER OR CLEAVAGE OR CLEAVED
)

=> first (5W) (link or linker or cleavage or cleaved) and (mass (w) spect?)
L2 154 FIRST (5W) (LINK OR LINKER OR CLEAVAGE OR CLEAVED) AND (MASS
(W) SPECT?)

=> l1 and l2
L3 30 L1 AND L2

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4 19 DUP REM L3 (11 DUPLICATES REMOVED)

=> t ti l4 1-19

L4 ANSWER 1 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Selecting candidate ligand that binds target molecule, by contacting sample having target molecule with candidate ligands, to form complex, recovering candidate ligands from complex, determining UV spectrum of recovered candidate ligand.

L4 ANSWER 2 OF 19 MEDLINE on STN DUPLICATE 1
TI A cascade of 24 histatins (histatin 3 fragments) in human saliva. Suggestions for a pre-secretory sequential cleavage pathway.

L4 ANSWER 3 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New improved method for combinatorial oligonucleotide polymerase chain reaction, useful for detecting gene expression comprising cleaving DNA with a restriction endonuclease resulting in a fragment having two non-identical ends.

L4 ANSWER 4 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Multiplex detection of methylation of target nucleic acids involves cleaving target nucleic acids with methylation selective enzymes and detecting cleaved or uncleaved nucleic acids with probes.

L4 ANSWER 5 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Production of metal-ligand compounds used in olefin oligomerization, by synthesizing first and second metal binding ligands in respective regions on substrate and delivering respective metal ion to each metal binding ligand.

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Chemical constructs and methods to facilitate the calculation of yields of reaction products

L4 ANSWER 7 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel trifunctional synthetic reagents for labeling peptides at specific amino acid residue and selectively enriching only those peptides containing labeled amino acid, useful for proteomic analysis.

L4 ANSWER 8 OF 19 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI Precursor structure of cephalosporin acylase. Insights into autoproteolytic activation in a new N-terminal hydrolase family.

L4 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Analytical construct resins for analysis of solid-phase chemistry

L4 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Determining the sequence of nucleic acid molecules by detection of tags cleaved from nucleic acid fragments

L4 ANSWER 11 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Detection of gene expression and analysis of both known and unknown genes, using a highly sensitive, rapid and cost-effective means of monitoring gene expression.

L4 ANSWER 12 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Chemical constructs, for use in solid phase synthesis and for analysis of the products.

L4 ANSWER 13 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Use of **mass spectrometry** for detecting hybridized oligonucleotide or a cleavage product of a target nucleic acid sequence, especially useful for diagnosing a genetic disease, chromosomal abnormality or infection by a pathogen.

L4 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
TI Characterizing polypeptides through cleavage and **mass spectrometry**

L4 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
TI Preparation of chemical constructs for monitoring reactions on solid supports

L4 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of chemical constructs for use in solid phase synthesis.

L4 ANSWER 17 OF 19 MEDLINE on STN DUPLICATE 4
TI The mature size of rat 4-aminobutyrate aminotransferase is different in liver and brain.

L4 ANSWER 18 OF 19 MEDLINE on STN DUPLICATE 5
TI Specificity of an extracellular proteinase from Brevibacterium linens ATCC 9174 on bovine alpha s1-casein.

L4 ANSWER 19 OF 19 MEDLINE on STN DUPLICATE 6
TI The site of action of lithium ions in morphogenesis of Lymnaea stagnalis analyzed by secondary ion **mass spectroscopy**.

=> d ibib abs 14 1,5-7,10,12,14-16

L4 ANSWER 1 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-399925 [37] WPIDS
DOC. NO. NON-CPI: N2004-318800
DOC. NO. CPI: C2004-149668
TITLE: Selecting candidate ligand that binds target molecule, by contacting sample having target molecule with candidate ligands, to form complex, recovering candidate ligands from complex, determining UV spectrum of recovered candidate ligand.
DERWENT CLASS: B04 D16 S03 T01
PATENT ASSIGNEE(S): (SLAN-I) SLANETZ A E
COUNTRY COUNT: 103
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2004037848 | A2 | 20040506 | (200437)* | EN | 158 |
| AU 2003299518 | A1 | 20040513 | (200469) | | |

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2004037848 | A2 | WO 2003-US15831 | 20030519 |
| AU 2003299518 | A1 | AU 2003-299518 | 20030519 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| AU 2003299518 | A1 | Based on | WO 2004037848 |

PRIORITY APPLN. INFO: US 2002-381607P 20020517
AN 2004-399925 [37] WPIDS
AB WO2004037848 A UPAB: 20040611
NOVELTY - Selecting (M1) candidate ligand that binds target molecule, involves contacting in vitro sample comprising target molecule of unknown biological function with library of candidate ligands, to form complex, isolating the complex, recovering one or more the candidate ligands from the complex, and determining the MS, IR, FTIR, NMR, and/or UV spectrum of a recovered candidate ligand.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) reacting (M2) two or more ligands that bind a target molecule of interest;

(2) isolating (M3) a second protein which binds a first protein;

(3) selecting (M4) a candidate target molecule which binds a small molecule of interest;

(4) selecting (M5) a candidate compound that binds or modulates the activity of a target molecule prior to validation of the target molecule as a drug target;

(5) selecting (M6) candidate compounds that bind or modulate the activity of target molecules;

(6) an electronic database (I) comprising:

(a) at least 10 records of target molecules correlated to records of

ligands and their ability to bind or modulate the activity of the target molecule,

(b) at least 10 records of target molecule domains correlated to records of ligands and their ability to bind the domains, or

(c) several records of target molecules that have not been previously validated as drug targets correlated to records of ligands and their ability to bind or modulate the activity of the target molecules;

(7) computer comprising (I) and a user interface capable of displaying one or more ligands that bind or modulate the activity of a target molecule whose record is stored in the computer or capable of displaying one or more target molecules that bind or have an activity that is modulated by a ligand whose record is stored in the computer;

(8) an electronic database (II) comprising at least 1000 records of compounds correlated to records of a phenotype in one or more biological assays effected by the compounds, where the biological assay involves a cell or in vitro sample that does not contain an exogenous copy of a nucleic acid encoding a protein that binds the compound;

(9) a computer comprising (II) and a user interface capable of displaying one or more phenotypes in one or more biological assays for a compound whose record is stored in the computer or capable of displaying one or more compounds that effects a phenotype whose record is stored in the computer;

(10) an electronic database (III) comprising at least 10 records of target molecules correlated to records of an expression profile or activity of the target molecules, or several records of target molecules that have not been previously validated as drug targets correlated to records of an expression profile or activity of the target molecules;

(11) a computer comprising (III) and a user interface capable of displaying one or more expression profiles or activities of a target molecule whose record is stored in the computer or capable of displaying one or more target molecules that have an expression profile or activity whose record is stored in the computer;

(12) identifying (M7) a target molecule associated with a phenotype of interest;

(13) identifying (M8) a phenotype that is associated with a target molecule of interest;

(14) identifying (M9) a ligand that binds or modulates the activity of a target molecule of interest;

(15) identifying (M10) a target molecule that binds or has an activity that is modulated by a ligand of interest;

(16) determining (M11) the selectivity of a ligand of interest.

(17) selecting (M12) a therapy for a subject for the treatment;

(18) determining (M13) whether a compound of interest is present in a sample;

(19) a computer-readable memory (IV) having stored on it a program for determining whether a compound of interest is present in a sample, comprising:

(20) producing (M14) two or more vectors encoding proteins of interest;

(21) purifying (M15) proteins;

(22) a method (M16) for producing a linear DNA molecule encoding a protein of interest;

(23) a DNA (V) molecule comprising:

(a) a promoter operably linked to a secretary or leader sequence, where (V)-(a) is linear and less than 3500 nucleotides in length,

(b) a promoter, where (V)-(b) is linear, less than 3500 nucleotides in length, and labeled with topoisomerase,

(c) a nucleic acid segment encoding a histidine affinity tag and a nucleic acid segment encoding a polyA region, where (V)-(c) is linear and less than 3500 nucleotides in length, or

(d) a first promoter operably linked to a nucleic acid segment encoding a first protein of interest and a histidine affinity tag, and a

first polyA region, where (V)-(d) is linear; and

(24) a Chinese Hamster Ovary (CHO) cell (VI) that is transiently transfected with a nucleic acid encoding an mRNA or protein of interest.

USE - (M1) is useful for selecting a candidate ligand which binds a target molecule. (M1) is useful for determining the biological function of a target molecule which involves performing (M1),selecting a candidate ligand which binds the target molecule, and measuring the effect of the selected candidate ligand in a biological assay.

(M1) is useful for determining the biological function of a target molecule which involves performing (M1),where the target molecule is upregulated or downregulated in a disease state, in the presence of a physiological stimulus, or during a specific cellular or biological process with a library of candidate ligands under conditions that allow one or more the candidate ligands to bind the target molecule, selecting a candidate ligand which binds the target molecule, and measuring the effect of the selected candidate ligand in a biological assay. The selected candidate ligand increases or decreases the activity of the target molecule in the biological assay.

(M1) is useful for determining the biological function of a target molecule which involves performing (M1), selecting a candidate ligand which binds the target molecule, and measuring the effect of the selected candidate ligand on a tissue from an organism having a disease or disorder or undergoing a specific cellular or biological process in the presence or absence of a physiological stimulus, where the tissue is human tissue.

(M9) is useful for identifying a ligand that binds or modulates the activity of a target molecule of interest, where the ligand is used in drug discovery or development or lead optimization and used in the development of an agricultural or environmental agent.

(V)-(b), (V)-(c) or (V)-(d) is useful for producing a linear DNA molecule encoding a protein of interest. (V)-(d) is useful for purifying a protein (all claimed).

ADVANTAGE - (M1) allows a library of compounds to be screened without tagging or purifying individual members of the library before screening, thus greatly decreasing the amount of time necessary to screen the library. Moreover, (M1) is rapid.

Dwg.0/27

L4 ANSWER 5 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-068858 [07] WPIDS

CROSS REFERENCE: 1996-221899 [22]; 1998-130312 [12]; 1998-240752 [21]; 1998-240943 [21]; 1998-240950 [21]; 1998-241072 [21]; 1998-397917 [34]; 1998-583442 [49]; 1999-080876 [07]; 1999-132432 [11]; 1999-142839 [12]; 1999-142962 [12]; 1999-302357 [25]; 1999-611065 [52]; 2000-052183 [04]; 2000-105073 [09]; 2000-136305 [12]; 2000-338767 [29]; 2000-505663 [45]; 2000-638498 [61]; 2001-272561 [28]; 2001-272673 [28]; 2001-391546 [42]; 2001-656196 [75]; 2002-061387 [08]; 2002-138760 [18]; 2002-156532 [21]; 2002-314807 [35]; 2002-463278 [49]; 2002-470122 [50]; 2002-625845 [67]; 2003-038162 [03]; 2003-329825 [31]; 2003-354490 [33]; 2003-656115 [62]; 2003-669409 [63]; 2003-742808 [70]; 2003-754498 [71]; 2003-765734 [72]; 2003-777476 [73]; 2003-811094 [76]; 2004-212114 [20]; 2004-223799 [21]; 2004-224691 [21]; 2004-236784 [22]

DOC. NO. NON-CPI: N2004-055373

DOC. NO. CPI: C2004-028387

TITLE: Production of metal-ligand compounds used in olefin oligomerization, by synthesizing first and second metal binding ligands in respective regions on substrate and delivering respective metal ion to each metal binding ligand.

DERWENT CLASS: A60 B04 E19 J04 S03

INVENTOR(S): BOUSSIE, T; GOLDWASSER, I; MCFARLAND, E; MURPHY, V; POWERS, T; TURNER, H; VAN BEEK, J A M; WEINBERG, W H

PATENT ASSIGNEE(S): (SYMY-N) SYMYX TECHNOLOGIES INC

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| US 2003100119 | A1 | 20030529 | (200407)* | | 64 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| US 2003100119 | A1 Div ex | US 1994-327513 | 19941018 |
| | Provisional | US 1996-16102P | 19960723 |
| | Provisional | US 1996-28106P | 19961009 |
| | Provisional | US 1996-29255P | 19961025 |
| | Provisional | US 1997-35366P | 19970110 |
| | Provisional | US 1997-48987P | 19970609 |
| | CIP of | US 1998-127660 | 19980731 |
| | Cont of | US 1999-337047 | 19990621 |
| | | US 2002-269362 | 20021011 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| US 2003100119 | A1 Div ex | US 5985356 |
| | CIP of | US 6420179 |

PRIORITY APPLN. INFO: US 2002-269362 20021011; US 1994-327513 19941018; US 1996-16102P 19960723; US 1996-28106P 19961009; US 1996-29255P 19961025; US 1997-35366P 19970110; US 1997-48987P 19970609; US 1998-127660 19980731; US 1999-337047 19990621

AN 2004-068858 [07] WPIDS

CR 1996-221899 [22]; 1998-130312 [12]; 1998-240752 [21]; 1998-240943 [21]; 1998-240950 [21]; 1998-241072 [21]; 1998-397917 [34]; 1998-583442 [49]; 1999-080876 [07]; 1999-132432 [11]; 1999-142839 [12]; 1999-142962 [12]; 1999-302357 [25]; 1999-611065 [52]; 2000-052183 [04]; 2000-105073 [09]; 2000-136305 [12]; 2000-338767 [29]; 2000-505663 [45]; 2000-638498 [61]; 2001-272561 [28]; 2001-272673 [28]; 2001-391546 [42]; 2001-656196 [75]; 2002-061387 [08]; 2002-138760 [18]; 2002-156532 [21]; 2002-314807 [35]; 2002-463278 [49]; 2002-470122 [50]; 2002-625845 [67]; 2003-038162 [03]; 2003-329825 [31]; 2003-354490 [33]; 2003-656115 [62]; 2003-669409 [63]; 2003-742808 [70]; 2003-754498 [71]; 2003-765734 [72]; 2003-777476 [73]; 2003-811094 [76]; 2004-212114 [20]; 2004-223799 [21]; 2004-224691 [21]; 2004-236784 [22]

AB US2003100119 A UPAB: 20040418

NOVELTY - Production of an array of metal ligand compounds (A) comprises synthesizing first and second metal binding ligands in respective regions on a substrate and delivering respective metal ions to each metal binding ligand to form first and second metal ligand compounds.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) preparing a polymer blend by contacting at least two (A) with a cocatalyst and a monomer, and

(b) polymerizing olefins, diolefins, and acetylenically unsaturated

monomers by contacting (A) with a cocatalyst and a monomer.

USE - Used for preparing an array of (A) useful for an organic transformation reaction requiring Lewis acidic sites, e.g. stereo-selective coupling reactions, olefin oligomerization reactions or olefin polymerization reactions. (A) Are used to prepare polymer blend or to polymerize olefins, diolefins or acetylenically unsaturated monomers.

ADVANTAGE - The method accelerates the rate discovering and optimizing catalytic process, and rapidly characterizes each member to identify compounds with specific, desired properties, e.g. polymerization characteristics, mechanical, optical, physical or morphological property, lifetime, stability, selectivity, conversion efficiency, or activity of (A).

Dwg.0/30

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:89977 CAPLUS
DOCUMENT NUMBER: 136:134333
TITLE: Chemical constructs and methods to facilitate the calculation of yields of reaction products
INVENTOR(S): Geysen, H. Mario
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002008154 | A2 | 20020131 | WO 2001-US23772 | 20010726 |
| WO 2002008154 | A3 | 20030123 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 6584411 | B1 | 20030624 | US 2000-625781 | 20000726 |
| EP 1303468 | A2 | 20030423 | EP 2001-956018 | 20010726 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| JP 2004504616 | T2 | 20040212 | JP 2002-514064 | 20010726 |
| PRIORITY APPLN. INFO.: | | | US 2000-625781 A | 20000726 |
| | | | WO 2001-US23772 W | 20010726 |

AB A method for calculating the yield of a reaction product comprising; providing a solid support with a **first link**, a reference material, and a **second link** having an attachment site. Chemical is performed on the attachment site of the **second link** in one or more steps to produce a reaction product. The amount of the reference material and the reaction product is measured using **mass spectroscopy** and the percentage yield of the reaction product determined in part on the amount of measured reference material and the amount of measured reaction product. One example of the method is provided.

L4 ANSWER 7 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 2002-599760 [64] WPIDS
CROSS REFERENCE: 2004-169365 [16]

DOC. NO. NON-CPI: N2002-475470
DOC. NO. CPI: C2002-169580
TITLE: Novel trifunctional synthetic reagents for labeling peptides at specific amino acid residue and selectively enriching only those peptides containing labeled amino acid, useful for proteomic analysis.
DERWENT CLASS: B04 B05 D16 S03
INVENTOR(S): ANDON, N; HAYNES, P; WEI, J; YATES, J
PATENT ASSIGNEE(S): (ANDO-I) ANDON N; (HAYN-I) HAYNES P; (WEIJ-I) WEI J; (YATE-I) YATES J; (SYGN) SYNGENTA PARTICIPATIONS AG
COUNTRY COUNT: 97
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2002059144 | A2 | 20020801 | (200264)* | EN | 79 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW | | | | | |
| W: AE AG AL AM AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU DM DZ EC ES GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW | | | | | |
| US 2003082522 | A1 | 20030501 | (200331) | | |
| US 2003087329 | A1 | 20030508 | (200337) | | |
| AU 2002240148 | A1 | 20020806 | (200427) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2002059144 | A2 | WO 2002-US2487 | 20020125 |
| US 2003082522 | A1 Provisional | US 2001-264576P | 20010126 |
| | Provisional | US 2001-305232P | 20010713 |
| | | US 2002-57789 | 20020125 |
| US 2003087329 | A1 Provisional | US 2001-264576P | 20010126 |
| | Provisional | US 2001-305232P | 20010713 |
| | Cont of | US 2002-57789 | 20020125 |
| | | US 2002-212628 | 20020801 |
| AU 2002240148 | A1 | AU 2002-240148 | 20020125 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| AU 2002240148 | A1 Based on | WO 2002059144 |

PRIORITY APPLN. INFO: US 2001-305232P 20010713; US 2001-264576P 20010126; US 2002-57789 20020125; US 2002-212628 20020801

AN 2002-599760 [64] WPIDS
CR 2004-169365 [16]
AB WO 200259144 A UPAB: 20040426
NOVELTY - Analytical reagents e.g. trifunctional synthetic reagents which can be used for reducing the complexity of peptide mixtures by labeling peptides at specific amino acid residue and then selectively enriching only those peptides containing the labeled amino acid, are new.

DETAILED DESCRIPTION - A compound (C1) of formula immobilization site-cleavage site-link (I) where:

(a) immobilization site is chosen from an epitope tag, a linker to a solid surface, a metal chelating site, a magnetic site, and a specific oligonucleotide sequence, or their combination;

(b) cleavage site is chosen from a protease cleavage site, a photocleavable linker, a restriction enzyme cleavage site, a chemical cleavage site, and a thermal cleavage site, or their combination; and

(c) link is chosen from an amino acid reactive site and a mass variance site, or their combination.

INDEPENDENT CLAIMS are also included for the following:

(1) a compound (C2) of formula II or III;

(2) preparing a fusion protein of formula (VI), by preparing a fusion protein sample of formula VII from cells and reacting the protein sample with iodoacetamide.

(II) acyl-NH-X-(epitope tag site)A-Y-(protease cleavage site)-Z-link; (III) acyl-NH-X-alk-O-Ph-CH2-Z-link; (VI) protein-acyl-N-X-(epitope tag site)A-Y-(protease cleavage site)-Z-(lys- delta -N-iodoacetamide); (VII) protein-acyl-NH-X-(epitope tag site)A-Y-(protease cleavage site)-Z-Lys- delta -NHCOCH2.

A = an integer from 0-12;

X = an amide bond of formula -C(O)-NR-, a carbonyl of formula -C(O)-, or an amino acid sequence comprising between 0-50 amino acids, ;

Y = an amide bond of formula -C(O)-NR-, an amino acid sequence comprising between 0-50 amino acids;

Z = an amide bond of formula -(CH2)B-C(O)-NR-, an amide bond of formula -(CH2)B-NR-C(O)- or an amino acid sequence comprising between 0-10 amino acids;

R = hydrogen or lower alkyl;

B = an integer from 0-20;

alk = straight or branched chain of alkylene comprising between 0-20 carbon atoms;

Ph = a phenyl group optionally substituted with one or more electron withdrawing groups ortho or para to the -CH2- group;

Link = -(CH2)C-I, -(CH2)D-CH(-(-CH2)ECH3)-(CH2F-X-I, Lys- epsilon -iodoacetamide, Arg- delta -iodoacetamide, or Orn- delta -iodoacetamide; and

C-F = an integer from 0-20.

An epitope tag site is a sequence of amino acids. When A is two or more, amino acid sequence of each epitope tag site can be the same or different, and protease cleavage site is a sequence of amino acids that is cleavage site for a highly specific protease enzyme.

USE - (C2) having a formula of (II) or (III) is useful for simultaneously identifying and determining the levels of expression of cysteine-containing proteins in normal and perturbed cells, which involves preparing a first protein sample or a first peptide sample from the normal cells, reacting the first protein sample or the first peptide sample with (C2), preparing a second protein sample or a second peptide sample from the perturbed cells, reacting the second protein sample or the second peptide sample with a second (C2), such that the molecular weight of the first reagent and the molecular weight of the second reagent are different by an integer multiple of 14 atomic mass units, combining the reacted first and second protein samples, subjecting the combined protein samples to proteolysis at a site on the protein samples or at a site on the peptide samples, the site being other than the protease cleavage sitem subjecting the proteolyzed combined protein samples to an affinity chromatography system comprising a second amino acid sequence attached to a solid, thereby forming bound proteins and non-bound proteins, where the epitope tag site of the reagent and the second amino acid sequence bind with high specificity to each other, eluting the non-bound proteins from the affinity chromatography system, subjecting the affinity chromatography system to a protease specific for the protease cleavage site, thereby forming a cleaved protein mixture, eluting the cleaved protein mixture from the affinity chromatography system, isolating the eluted protein mixture, subjecting the eluted protein mixture to chromatographic separation, followed by mass analysis, and comparing the results. The method optionally involves subjecting the prepared first protein sample or

first peptide sample, and the prepared second protein sample or second peptide sample to proteolysis, and then reacting the proteolyzed first or second protein sample, or the proteolyzed first or second peptide sample with (C2) In the optional method, the link is Lys- epsilon -iodoacetamide. Optionally, the **first link** is Orn- delta -iodoacetamide, and the **second link** is Lys- epsilon -iodoacetamide. The Z substituent in the first reagent has a molecular weight that is an integer multiple of 14 atomic mass units different than the Z substituent in the second reagent. The reagent reacts with the reactive side chain of one or more amino acid residues of a protein in the first or second protein sample. The amino acid residues are one of tyrosine, tryptophan, cysteine, methionine, proline, serine, threonine, lysine, histidine, arginine, aspartic acid, glutamic acid, asparagine, and glutamine. Most preferably, the amino acid residue is cysteine. The chromatographic separation is a multi-dimensional liquid chromatographic separation, preferably two- or three-dimensional liquid chromatographic separation. The dimensions are any one size differentiation, charge differentiation, hydrophobicity, hydrophilicity or polarity. The mass analysis of step (n) is multi-dimensional, preferably two-dimensional mass analysis. (C2) is useful for proteomic analysis, which involves preparing a protein sample or a peptide sample from cells, reacting the protein sample or the peptide sample with (C2), subjecting the reacted proteins to proteolysis at a site on the protein samples, subjecting the proteolyzed reacted proteins or the proteolyzed reacted peptides to an affinity chromatography system comprising a second amino acid sequence attached to a solid support, thereby forming bound proteins and non-bound proteins, where the epitope tag site of the reagent and the second amino acid sequence bind with high specificity to each other, eluting the non-bound proteins from the affinity chromatography system, subjecting the affinity chromatography system to a protease specific for the protease cleavage site, thereby forming a cleaved protein mixture, eluting the cleaved protein mixture from the affinity chromatography system, subjecting the cleaved protein mixture to chromatographic separation, followed by mass analysis, comparing the results. (All claimed).

ADVANTAGE - The reagents allow rapid and quantitative analysis of proteins or protein function in mixtures of proteins. By preparing the reagent in two forms with detectably different masses, accurate relative quantification of peptide amounts using **mass spectrometry**, can be achieved.

Dwg.0/8

L4 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:813415 CAPLUS
DOCUMENT NUMBER: 135:353706
TITLE: Determining the sequence of nucleic acid molecules by detection of tags cleaved from nucleic acid fragments
INVENTOR(S): Van Ness, Jeffrey; Tabone, John C.; Howbert, J. Jeffry; Mulligan, John T.
PATENT ASSIGNEE(S): Qiagen Genomics, Inc., USA
SOURCE: U.S., 106 pp., Cont.-in-part of U.S. Ser. No. 786,835. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 6312893 | B1 | 20011106 | US 1997-898180 | 19970722 |
| EP 992511 | A1 | 20000412 | EP 1999-113790 | 19970123 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

| | | | | | |
|---|---|---|---|---|---|
| WO 9905319 | A2 | 19990204 | WO 1998-US15008 | | 19980722 |
| WO 9905319 | A3 | 19990514 | | | |
| W: AL, AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | | |
| AU 9885765 | A1 | 19990216 | AU 1998-85765 | | 19980722 |
| AU 738237 | B2 | 20010913 | | | |
| EP 990047 | A2 | 20000405 | EP 1998-936928 | | 19980722 |
| EP 990047 | B1 | 20030514 | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | | |
| JP 2001511359 | T2 | 20010814 | JP 2000-504286 | | 19980722 |
| NZ 501919 | A | 20011130 | NZ 1998-501919 | | 19980722 |
| AT 240408 | E | 20030515 | AT 1998-936928 | | 19980722 |
| PT 990047 | T | 20031031 | PT 1998-936928 | | 19980722 |
| ES 2200355 | T3 | 20040301 | ES 1998-936928 | | 19980722 |
| US 2002119456 | A1 | 20020829 | US 2001-855999 | | 20010514 |
| US 6623928 | B2 | 20030923 | | | |
| US 2004115694 | A1 | 20040617 | US 2003-622182 | | 20030716 |
| PRIORITY APPLN. INFO.: | | | US 1996-10462P | P | 19960123 |
| | | | US 1997-786835 | B2 | 19970122 |
| | | | US 1996-589260 | A | 19960123 |
| | | | EP 1997-905634 | A3 | 19970123 |
| | | | US 1997-898180 | A | 19970722 |
| | | | US 1997-898501 | A | 19970722 |
| | | | US 1997-898564 | A | 19970722 |
| | | | WO 1998-US15008 | W | 19980722 |
| | | | US 2001-855999 | A3 | 20010514 |

OTHER SOURCE(S): MARPAT 135:353706

AB Methods and compds., including compns. therefrom, are provided for determining the sequence of nucleic acid mols. The methods permit the determination of multiple nucleic acid sequences simultaneously. The compds. are used as tags to generate tagged nucleic acid fragments which are complementary to a selected target nucleic acid mol. Each tag is correlative with a particular nucleotide and, in a preferred embodiment, is detectable by **mass spectrometry**. Following separation of the tagged fragments by sequential length, the tags are cleaved from the tagged fragments. In a preferred embodiment, the tags are detected by **mass spectrometry** and the sequence of the nucleic acid mol. is determined therefrom. The individual steps of the methods can be used in automated format, e.g., by the incorporation into systems. Two methods are outlined for the preparation and use of a diverse set of amine-containing **mass spectrometric** tags. In both methods, solid phase synthesis is employed to enable simultaneous parallel synthesis of a large number of tagged linkers, using the techniques of combinatorial chemical In the **first** method, the eventual **cleavage** of the tag from the oligonucleotide results in liberation of a carboxyl amide. In the **second** method, **cleavage** of the tag produces a carboxylic acid.

REFERENCE COUNT: 124 THERE ARE 124 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 19 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-367217 [38] WPIDS
DOC. NO. NON-CPI: N2001-267969

DOC. NO. CPI: C2001-112537
TITLE: Chemical constructs, for use in solid phase synthesis and for analysis of the products.
DERWENT CLASS: B04 E19 S03
INVENTOR(S): CARR, R A E; GEHANNE, S; KAY, C; PAIO, A; WILLIAMS, G M; ZARAMELLA, A
PATENT ASSIGNEE(S): (GLAX) GLAXO GROUP LTD
COUNTRY COUNT: 95
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2001025171 | A1 | 20010412 | (200138)* | EN | 51 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW | | | | | |
| W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW | | | | | |
| AU 2000076611 | A | 20010510 | (200143) | | |
| EP 1218319 | A1 | 20020703 | (200251) | EN | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |
| JP 2003511656 | W | 20030325 | (200330) | | 60 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2001025171 | A1 | WO 2000-EP9639 | 20001003 |
| AU 2000076611 | A | AU 2000-76611 | 20001003 |
| EP 1218319 | A1 | EP 2000-966100 | 20001003 |
| | | WO 2000-EP9639 | 20001003 |
| JP 2003511656 | W | WO 2000-EP9639 | 20001003 |
| | | JP 2001-528123 | 20001003 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| AU 2000076611 | A | Based on | WO 2001025171 |
| EP 1218319 | A1 | Based on | WO 2001025171 |
| JP 2003511656 | W | Based on | WO 2001025171 |

PRIORITY APPLN. INFO: GB 1999-23577 19991005
AN 2001-367217 [38] WPIDS
AB WO 200125171 A UPAB: 20010711
NOVELTY - Analysis of solid phase construct comprises providing a chemical construct e.g. containing an anthracenyl UV chromophone
DETAILED DESCRIPTION - Analysis of a solid phase construct comprises:
(i) providing a chemical construct comprising a solid support Q having linked to it via a connecting group Y a substrate R, the connecting group Y having **first** and **second cleavage** sites which are orthogonalloy and selectively cleavable, the **second cleavage** site being selectively cleavable to release the substrate, and the **first cleavage** site being located at a position between the **second cleavage** site and the solid support and being selectively cleavable to release a fragment Fr u comprising the substrate and at least a portion of the connecting group Y, where the portion contains a chromophone C u which facilitates analysis of the fragment Fru by ultra violet, visible or fluorescence spectrophotometry;

(ii) cleaving the connecting group Y at the **first cleavage** site to release the fragment Fr u; and

(iii) subjecting the fragment Fr u to ultra violet, visible or fluorescence spectrophotometric analysis to quantify the substrate R.

An INDEPENDENT CLAIM is also included for an intermediate construct, for use in preparing a chemical construct as described above, having the formula Q-Y' and Y' is a reactive or protected form of Y.

USE - The method provides a means of monitoring chemical reactions on solid supports which avoids problems inherent in known methods and provides a means of quantitatively analyzing the products of solid phase synthetic techniques. The method also provides a means of quantitatively analyzing the products of a solid phase synthesis where the amounts of product available for analysis are as little as 1 nanomole. The method can be used for identifying a pharmaceutically useful substrate (claimed).

ADVANTAGE - An advantage of the use of the UV chromophore-containing constructs is that they can be used to provide quantitative information on very small amounts of substrate compounds.

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L4 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 2000:241653 CAPLUS
DOCUMENT NUMBER: 132:262410
TITLE: Characterizing polypeptides through cleavage and **mass spectrometry**
INVENTOR(S): Schmidt, Gunter; Thompson, Andrew Hugin
PATENT ASSIGNEE(S): Brax Group Limited, UK
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE |
|---|---|---|---|---|---|
| WO 2000020870 | A1 | 20000413 | WO 1999-GB3258 | | 19991001 |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | | |
| CA 2344642 | AA | 20000413 | CA 1999-2344642 | | 19991001 |
| AU 9961096 | A1 | 20000426 | AU 1999-61096 | | 19991001 |
| AU 768902 | B2 | 20040108 | | | |
| EP 1117999 | A1 | 20010725 | EP 1999-947722 | | 19991001 |
| EP 1117999 | B1 | 20030205 | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | | |
| JP 2002526778 | T2 | 20020820 | JP 2000-574937 | | 19991001 |
| NZ 510873 | A | 20021025 | NZ 1999-510873 | | 19991001 |
| AT 232300 | E | 20030215 | AT 1999-947722 | | 19991001 |
| PT 1117999 | T | 20030630 | PT 1999-947722 | | 19991001 |
| ES 2192080 | T3 | 20030916 | ES 1999-947722 | | 19991001 |
| NO 2001001552 | A | 20010601 | NO 2001-1552 | | 20010327 |
| PRIORITY APPLN. INFO.: | | | GB 1998-21393 | A | 19981001 |
| | | | WO 1999-GB3258 | W | 19991001 |

AB Provided is a method for characterizing a polypeptide or a population of polypeptides, which method comprises: (a) contacting a sample comprising

one or more polypeptides with a **first cleavage** agent to generate polypeptide fragments; (b) isolating one or more polypeptides fragments, each fragment comprising the N-terminus or the C-terminus of the polypeptide from which it was fragmented; (c) identifying the isolated fragments by **mass spectrometry**; (d) repeating steps (a)-(c) on the sample using a **second cleavage** agent that cleaves at a different site from the **first cleavage** agent; and (e) characterizing the one or more polypeptides in the sample from the fragments identified in steps (c) and (d).

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2000:241132 CAPLUS
DOCUMENT NUMBER: 132:278732
TITLE: Preparation of chemical constructs for monitoring reactions on solid supports
INVENTOR(S): Carr, Robin Arthur Ellis; Gehanne, Sylvie; Kay, Corinne; McKeown, Stephen Carl; Murray, Peter John; Paio, Alfredo; Scicinski, Jan Josef; Watson, Stephen Paul; Williams, Geoffrey Martyn; Zaramella, Alessio
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE |
|---|---|---|---|---|---|
| WO 2000020357 | A2 | 20000413 | WO 1999-GB3286 | | 19991005 |
| WO 2000020357 | A3 | 20001026 | | | |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | | |
| AU 9961121 | A1 | 20000426 | AU 1999-61121 | | 19991005 |
| EP 1119529 | A2 | 20010801 | EP 1999-947750 | | 19991005 |
| EP 1119529 | B1 | 20030917 | | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | | |
| JP 2002526512 | T2 | 20020820 | JP 2000-574478 | | 19991005 |
| AT 250018 | E | 20031015 | AT 1999-947750 | | 19991005 |
| PT 1119529 | T | 20040227 | PT 1999-947750 | | 19991005 |
| ES 2207286 | T3 | 20040516 | ES 1999-947750 | | 19991005 |
| PRIORITY APPLN. INFO.: | | | GB 1998-21655 | A | 19981005 |
| | | | WO 1999-GB3286 | W | 19991005 |

OTHER SOURCE(S): CASREACT 132:278732

AB Title constructs comprise a solid support having linked thereto via a connecting group a substrate such that the connecting group has **first** and **second cleavage** sites which are orthogonally and selectively cleavable, the **second cleavage** site being selectively cleavable to release the substrate, and the **first cleavage** site being located at a position between the **second cleavage** site and the solid support and being selectively cleavable to release a fragment

comprising the substrate and at least a portion of the connecting group characterized in that cleavage at the **first cleavage** site forms or introduces on the chemical fragment at the **first cleavage** site a moiety comprising a sensitizing group (such as an amino group) which sensitizes the chemical fragment to instrumental, e.g. **mass spectroscopic**, anal. Thus, RNHCO(CH2)3OZCHMeOH (R = resin, Z = 2-methoxy-5-nitro-1,4-phenylene)(preparation given) was condensed with carbonyldiimidazole and the product amidated by PhCD2N(CO2CMe3)CH2NH2 to give, after deprotection, RNHCO(CH2)3OZCHMeO2CNHCH2CH2NHCD2Ph which was amidated by HO2C(CH2)3OZ1NHFmocC6H3(OMe)2-2,4 (Z1 = 1,4-phenylene) to give, after deprotection, N-benzoylation, and photolysis, H2NCH2CH2N(CD2Ph)CO(CH2)3OZ1CH(NHBz)C6H3(OMe)2-2,4 (Z1 unchanged). A **mass spectrum** of the latter was given.

L4 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:241033 CAPLUS
DOCUMENT NUMBER: 132:278731
TITLE: Preparation of chemical constructs for use in solid phase synthesis.
INVENTOR(S): Mckeown, Stephen Carl; Watson, Stephen Paul
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000020112 | A2 | 20000413 | WO 1999-GB3284 | 19991005 |
| WO 2000020112 | A3 | 20001026 | | |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 9961120 | A1 | 20000426 | AU 1999-61120 | 19991005 |
| EP 1119528 | A2 | 20010801 | EP 1999-947748 | 19991005 |
| EP 1119528 | B1 | 20020828 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2002526753 | T2 | 20020820 | JP 2000-573466 | 19991005 |
| AT 222884 | E | 20020915 | AT 1999-947748 | 19991005 |
| PT 1119528 | T | 20021231 | PT 1999-947748 | 19991005 |
| ES 2181478 | T3 | 20030216 | ES 1999-947748 | 19991005 |
| PRIORITY APPLN. INFO.: | | | GB 1998-21669 A | 19981005 |
| | | | WO 1999-GB3284 W | 19991005 |

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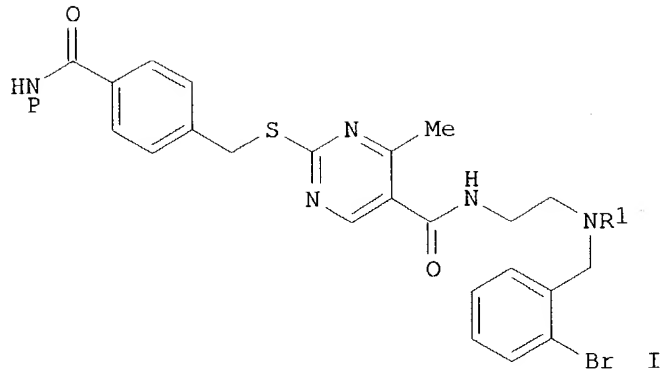

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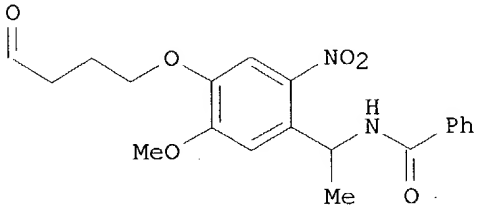

AB A chemical construct for use in solid phase synthesis comprises RY1QY2R [ Q = solid support; R = substrate or coding tag; Y1, Y2 = connecting groups each having a **first cleavage** site, ≥1 of Y1, Y2 have a **second cleavage** site located between the **first cleavage** site and group R, the **first cleavage** site being orthogonally and selectively cleavable with respect to the **second cleavage** site, and, when both Y1 and Y2 contain a **second cleavage** site, the **second cleavage** site in Y1 being selectively and orthogonally cleavable with respect to the **second cleavage** site in Y2; the **second cleavage** site being cleavable to release the substrate; and the **first cleavage** site being selectively cleavable to release a fragment Fr comprising the substrate R and at least a portion of the connecting group Y; and wherein: (i) the chemical fragment Fr contains a sensitizing group G which sensitizes the chemical fragment Fr to instrumental, e.g. **mass spectroscopic** anal.; and/or (ii) the fragment Fr contains a means for imparting a characteristic signature to the **mass spectrum** of the fragment]. Thus, resin I (P = TentaGel moiety; R1 = H) was shaken with 4-[4-[1-(9-fluorenylmethoxycarbonylamino)ethyl]-2-methoxy-5-nitrophenoxy]butanoic acid, diisopropylamine, and 2-(1H-9-azabenzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate in DMF to give amide product, which was shaken with PhCO2H, diisopropylamine, and 2-(1H-9-azabenzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate in DMF to give resin-bound construct I (P as above; R1 = Q1). This was subjected to thiopyrimidine cleavage conditions and **mass spectral** anal.

=> d his

(FILE 'HOME' ENTERED AT 21:02:05 ON 10 NOV 2004)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE, WPIDS' ENTERED AT 21:02:22 ON 10 NOV 2004

L1 9215 (SECOND OR SEPARATE) (5W) (LINK OR LINKER OR CLEAVAGE OR CLEAVE

L2 154 FIRST (5W) (LINK OR LINKER OR CLEAVAGE OR CLEAVED) AND (MASS (W

```
L3            30 L1 AND L2
L4            19 DUP REM L3 (11 DUPLICATES REMOVED)

=> first (5W) (link or linker or cleavage or cleaved) and (ultraviolet or (ultra
(w) violet) or visible or (fluorescence or fluorescent))
L5           555 FIRST (5W) (LINK OR LINKER OR CLEAVAGE OR CLEAVED) AND (ULTRAVIO
                 LET OR (ULTRA (W) VIOLET) OR VISIBLE OR (FLUORESCENCE OR FLUORES
                 CENT))

=> l1 and l5
L6           100 L1 AND L5

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7            83 DUP REM L6 (17 DUPLICATES REMOVED)

=> l7 not l4
L8            80 L7 NOT L4

=> t ti l8 1-40

L8   ANSWER 1 OF 80      MEDLINE on STN
TI   Timing of early developmental events in embryos of a tropical sea urchin
     Echinometra mathaei.

L8   ANSWER 2 OF 80      MEDLINE on STN
TI   Embryogenesis and development of Epimenia babai (Mollusca Neomeniomorpha).

L8   ANSWER 3 OF 80      MEDLINE on STN
TI   Exposure of sperm head equatorin after acrosome reaction and its fate
     after fertilization in mice.

L8   ANSWER 4 OF 80      MEDLINE on STN
TI   The unique developmental program of the acoel flatworm, Neochildia fusca.

L8   ANSWER 5 OF 80      MEDLINE on STN
TI   Chromosome mosaicism in human embryos.

L8   ANSWER 6 OF 80      MEDLINE on STN
TI   The activation of prothrombin by the prothrombinase complex. The
     contribution of the substrate-membrane interaction to catalysis.

L8   ANSWER 7 OF 80      MEDLINE on STN
TI   Animal and vegetal teloplasms mix in the early embryo of the leech,
     Helobdella triserialis.

L8   ANSWER 8 OF 80      MEDLINE on STN
TI   Limited proteolysis of complement protein C3b by regulatory enzyme C3b
     inactivator: isolation and characterization of a biologically active
     fragment, C3d,g.

L8   ANSWER 9 OF 80      MEDLINE on STN
TI   Cyclic assembly-disassembly of cortical microtubules during maturation and
     early development of starfish oocytes.

L8   ANSWER 10 OF 80      MEDLINE on STN
TI   Suppression of male pronuclear movement in frog eggs by hydrostatic
     pressure and deuterium oxide yields androgenetic haploids.

L8   ANSWER 11 OF 80      MEDLINE on STN
TI   The distribution of lectin receptors on the plasma membrane of the
     fertilized sea urchin egg during first and second
```

**cleavage.**

L8 ANSWER 12 OF 80 MEDLINE on STN
TI A flavin-mononucleotide-binding site in Hansenula anomala nicked flavocytochrome b2, requiring the association of two domains.

L8 ANSWER 13 OF 80 MEDLINE on STN
TI Evidence for RNA-RNA cross-link formation in Escherichia coli ribosomes.

L8 ANSWER 14 OF 80 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI Effects of heat-shock on cell division and microtubule organization in zygotes of the shrimp Penaeus indicus (Crustacea, Decapoda) observed with confocal microscopy.

L8 ANSWER 15 OF 80 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI Embryogenesis and development of Epimenia babai (Mollusca Aplacophora).

L8 ANSWER 16 OF 80 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI Increased number of cells and metabolic activity in male human preimplantation embryos following in vitro fertilization.

L8 ANSWER 17 OF 80 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI A fate map for the first cleavages of the zebrafish.

L8 ANSWER 18 OF 80 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI MECHANISM OF AN ALTERNATE TYPE OF ECHINODERM BLASTULA FORMATION THE WRINKLED BLASTULA OF THE SEA URCHIN HELIOCIDARIS-ERYTHROGRAMMA.

L8 ANSWER 19 OF 80 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
TI THE FORMATION DIFFERENTIATION AND SEGMENTATION OF THE POST-NAUPLIAR GERM BAND OF THE AMPHIPOD GAMMARUS-PULEX L. CRUSTACEA MALACOSTRACA PERACARIDA.

L8 ANSWER 20 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methods and DNA constructs for high yield production of polypeptides by including inclusion body fusion partner (IBFP) peptide

L8 ANSWER 21 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methods and optimized DNA constructs for high yield production of polypeptides by including inclusion body fusion partner (IBFP) peptide

L8 ANSWER 22 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of chemical constructs containing anthracenyl or dansyl groups as UV chromophores

L8 ANSWER 23 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
TI Biosensors for DNA detection containing polynucleotide probes conjugated with chromophores to generate donor-to-donor energy transfer system

L8 ANSWER 24 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
TI Tetraploid induction in the mussel Mytilus edulis by application of 6-dimethylaminopurine (6-DMAP)during early development

L8 ANSWER 25 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
TI The kinetics of peptide reactions with class II major histocompatibility complex membrane proteins

L8 ANSWER 26 OF 80 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
TI Viroid processing: Switch from cleavage to ligation is driven by a change from a tetraloop to a loop E conformation.

L8 ANSWER 27 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Determining nucleic acid sequence and/or base composition, useful for single nucleotide polymorphism analysis, comprises elongating a nucleic acid strand and determining the nature/quantity of nucleotides incorporated into it.

L8 ANSWER 28 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Composition useful in nucleic acid detection assays such as invasive cleavage structure assays, comprises tagged oligonucleotides containing lipophilic 3' end groups.

L8 ANSWER 29 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel DNA molecule consisting of first and second loop portions, and stem portion having first and second strand equal in length, complementary and annealed together, useful for nucleic acid sequencing.

L8 ANSWER 30 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel oligonucleotide or assembly of oligonucleotides comprising first region and second region capable of hybridizing with target nucleic acid sequence, useful in detecting presence or absence of target nucleic acid sequence in sample.

L8 ANSWER 31 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Noninvasive detection of protein interactions within living subject comprises introducing separate vectors encoding the proteins linked to activator proteins where reporter activity is recovered when proteins of interest interact.

L8 ANSWER 32 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Probe useful for detecting presence or absence of target ligand and target reaction inducing agent, comprises first pair of nucleic acid sequences, recognition element conjugated to first sequence and detectable label producing signal.

L8 ANSWER 33 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Analyzing nucleic acids, comprises mixing target nucleic acid such as hepatitis C virus nucleic acid, bridging oligonucleotide, **second** oligonucleotide and **cleavage** agent to form cleavage structure.

L8 ANSWER 34 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New MHC class II compound, useful for preparing a composition for treating immune disorders e.g. viral infections, bacterial infections, parasitic infections, neoplastic disease, autoimmunity or toxicity.

L8 ANSWER 35 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Determining the proteolytic activity of a secretase (e.g. beta- or gamma-secretase), useful for preventing or treating Alzheimer's dementia, comprises detecting the cleavage of an amyloid precursor protein substrate.

L8 ANSWER 36 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel viral vector comprising beta-catenin/bipartite T-cell factor-responsive promoter having first and second promoter region linked to target nucleic acid sequence, useful for treat- ing colon cancer.

L8 ANSWER 37 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New oligonucleotide probe for detecting a target polynucleotide comprising

first and second targeting portions and a proximity-modulated signal generating system, useful for detecting e.g., gastrointestinal cancer.

L8 ANSWER 38 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Producing expression vector library by synthesizing cDNA from mRNAs, ligating with adaptor, cleaving adaptor modified cDNA with endonuclease to provide first nucleic acid and cloning the nucleic acid with vector.

L8 ANSWER 39 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Chimeric vector for use in preventing or treating graft versus host disease, comprises nucleic acid regions encoding an extracellular domain of a protein and a cytosine deaminase.

L8 ANSWER 40 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New cell comprising a first and second conjugate respectively having a first protein and the N-terminal fragment, and a second protein and the C-terminal fragment of the complementation protein, for detecting protein-protein interactions.

=> t ti l8 41-80

L8 ANSWER 41 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Detection of target nucleic acids in samples involves using a stem/loop probe with long and short strands, a linker and a hybridizing reagent, contacting the probe with a sample and hybridizing reagent, and detecting extension.

L8 ANSWER 42 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Detecting target nucleic acids by providing a detector probe having nucleic acid labeled with two chromophores, adding the probe to a sample having a target strand of nucleic acid, and detecting the target strand of the nucleic acid.

L8 ANSWER 43 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Identification of 3'-ends of polynucleotides used for phasing chromatographic separation, comprises separating polynucleotides by ion pairing reverse phase high performance liquid chromatography.

L8 ANSWER 44 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New biomolecular complex, useful for constructing novel, highly specific vehicles or vectors for drug delivery, e.g. in gene therapy, or for performing assays for the study of biomolecular interaction, e.g. protein-protein studies.

L8 ANSWER 45 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New chimeric polypeptides and nucleic acids, useful for detecting and measuring protease activity, for identifying modulators of protease activity for detecting and for preventing or ameliorating Alzheimer's disease.

L8 ANSWER 46 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Method of detecting activation state of two activatable proteins in single cells involving contacting a cell population with activation state specific antibodies and detecting binding of the antibodies using flow cytometry.

L8 ANSWER 47 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Cleaving target nucleic acid in cell with chimeric guide- endonuclease fusion molecule, by permitting the fusion molecule to cleave the target nucleic acid in the cell comprising the target and fusion molecules.

L8 ANSWER 48 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel polypeptide self-antigen useful as tumor-specific vaccine in mammals, is produced in plants and mimics one or more epitopes of antigen uniquely expressed by cells of tumor.

L8 ANSWER 49 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel polypeptide self-antigen useful as tumor-specific vaccine in mammals, is produced in plants and mimics one or more epitopes of antigen uniquely expressed by cells of tumor.

L8 ANSWER 50 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Improving a **fluorescence** resonance energy transfer-based assay having a dye pair, involves using fluorescein and cyanine 5 as the dye pair.

L8 ANSWER 51 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Identifying Sequence Tags from trapped genes, useful for diagnostic applications, comprises using a gene-trap vector having a splice donor, a type IIS restriction endonuclease cleavage site and a splice donor or polyadenylation site.

L8 ANSWER 52 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Composition for separating target cells from mixture of cells, has a linker having one end coupled to intracellular marker that binds to molecules in target cells, and the other end coupled to extracellular component.

L8 ANSWER 53 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New chimeric protein, useful for detecting protease inhibitors inside the cell or tissue.

L8 ANSWER 54 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Novel chimeric capsid protein useful for identifying and characterizing ligands of the chimeric capsid protein, comprises a native capsid protein and a heterologous-capsid amino acid sequence.

L8 ANSWER 55 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Identifying and genotyping microorganisms, e.g. bacterium, yeast or virus, comprises using a single restriction endonuclease, linker and amplification primer to determine the number and sizes of the DNA fragments.

L8 ANSWER 56 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Articulated rotary mower for cutting vegetation has first and second variable length linkages that respectively control pivoting of ground wheel support arm and cutting height of mower.

L8 ANSWER 57 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Formation of synthetic leather for lining internal parts of motor vehicle, involves forming first and second layers from cross-linkable silane grafted polyolefin and polyolefin with preset melting point, respectively.

L8 ANSWER 58 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Composition for determining target sequence of contiguous nucleobases, comprises polynucleobase strand and combination oligomer comprising first and second oligomer blocks that are covalently linked to each other.

L8 ANSWER 59 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Nonlinear-active labels attached to target for studying the target using surface-selective nonlinear optical technique, has solid object which provides surface area on which nonlinear-active component is attached.

L8 ANSWER 60 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Analyzing RNA transcripts in a cell by labeling and purifying transcripts then synthesizing first strand cDNA copies, useful for monitoring changes when cells differentiate or become malignant, or when exposed to exogenous agents.

L8 ANSWER 61 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Laser system comprises pumping source, laser resonator that emit laser pulses, mode locking device, burst gating device, beam positioning system, and laser system controller.

L8 ANSWER 62 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Screening libraries of tester proteins against protein, peptide or nucleic acid target(s) using a two-hybrid method in yeast, useful for generating recombinant human antibodies and screening for their affinity binding with target antigens.

L8 ANSWER 63 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Inhibition of a pathogenic toxin in a mammal for treatment of skin infection comprises administering a cross-linked polymer comprising first and second polymer strand connected by a linking group to the mammal.

L8 ANSWER 64 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Mobility-modifying cyanine dye for molecular probes, comprises hetero aromatic benzazole and benzazolium ring system with specific linking group.

L8 ANSWER 65 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Determining electrical potential across a membrane in biological systems, comprises introducing two reagents, exposing the membrane to light and measuring the energy transfer.

L8 ANSWER 66 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Interaction-dependent enzyme association systems for detecting interactions between two or three polypeptides, especially in human therapeutics, diagnostics or prognostics, comprise circularly permutated proteins.

L8 ANSWER 67 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New oligonucleotide (assembly), useful for detecting target nucleic acid in sample, comprises first and second regions capable of hybridizing with target and linked third and fourth regions.

L8 ANSWER 68 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Link assembly for link bracelet, has **first** bore formed through male **link** element and second and third bores formed through female link element.

L8 ANSWER 69 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Determining the proteolytic activity of secretase for treating Alzheimer's disease comprises permeablizing vesicles and incubating with amyloid precursor protein (APP) to determine cleavage of APP substrate.

L8 ANSWER 70 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Chemical constructs for use in solid phase synthesis comprises a solid support linked via a connecting group, which can be selectively cleaved in two places, to a substrate.

L8 ANSWER 71 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Detection of microorganisms and viruses, for use in the food and cosmetic industries and for clinical diagnostics.

L8 ANSWER 72 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Profiled clamping frame with bottom and top first frame strut.

L8 ANSWER 73 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Electromagnetic radiation data transfer system - has analyser that determines which of test signals were received most clearly and transmitting results of its analysis to generator over **second** data **link**.

L8 ANSWER 74 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI New **fluorescent** labelling complex with large Stokes shift - comprising at least two covalently linked fluoro-chrome(s) containing target binding gp., especially used for labelling DNA probes.

L8 ANSWER 75 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Space-shaping apparatus for **fluorescent** display tube.

L8 ANSWER 76 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Working vehicle having high visibility and transportation capability - has working unit with boom divided into first and second boom members, and arm fixed to front end portion of second boom member.

L8 ANSWER 77 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Detection of antigenic substances - using divalent antibody linker, binding it to antigenic substance and signal substance and detecting the signal.

L8 ANSWER 78 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Gene diagnosis for detecting mutation - comprises digesting sample with restriction enzyme, labelling digested end then comparing electrophoresis pattern for digested and bound control.

L8 ANSWER 79 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Immuno-**fluorescence** staining technique for selecting antigen-specific B lymphocytes - comprises labelling the B cells with two or more antigen probes, each labelled with different fluoro chrome.

L8 ANSWER 80 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
TI Inverter for lighting of **fluorescent** lamp - has connection of inductor in series to lamp and of capacitor in parallel to lamp
NoAbstract Dwg 1/3.

=> d ibib abs l8 22, 30, 32, 42, 50, 58, 59, 64, 70, 74

L8 ANSWER 22 OF 80 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:265362 CAPLUS
DOCUMENT NUMBER: 134:295629
TITLE: Preparation of chemical constructs containing anthracenyl or dansyl groups as UV chromophores
INVENTOR(S): Carr, Robin Arthur Ellis; Gehanne, Sylvie; Paio, Alfredo; Williams, Geoffrey Martyn; Zaramella, Alessio
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|

WO 2001025171 A1 20010412 WO 2000-EP9639 20001003
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1218319 A1 20020703 EP 2000-966100 20001003
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
JP 2003511656 T2 20030325 JP 2001-528123 20001003
PRIORITY APPLN. INFO.: GB 1999-23577 A 19991005
WO 2000-EP9639 W 20001003

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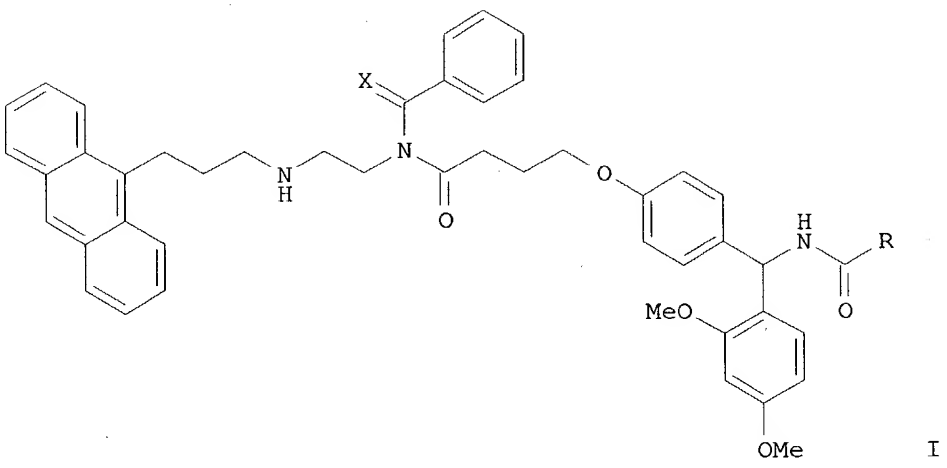


I

AB Solid phase synthesis and methods of anal. of the products are given. More specifically "a chemical construct for use in solid phase synthesis comprising a solid support Q having linked thereto via a connecting group Y a substrate R; the connecting group Y having **first** and **second cleavage** sites which are orthogonally and selectively cleavable; the **second cleavage** site being selectively cleavable to release the substrate; and the **first cleavage** site being located at a position between the **second cleavage** site and the solid support and being selectively cleavable to release a fragment Fru comprising the substrate and at least a portion of the connecting group Y, wherein the said portion contains a chromophore Cu which facilitates anal. of the fragment Fru by UV, **visible** or **fluorescence** spectroscopy, the chromophore Cu having a principal log Emax value of at least 2.5 and wherein (i) the principal log Emax value is at least 1.5 times greater than the principal log Emax of the substrate R; or (ii) the chromophore Cu has an absorption peak at a wavelength remote from absorptions due to the substrate R; and to methods of anal. of products of solid phase synthesis using the constructs". E.g., anthracenes I (X = H, D; R = 3-dimethylaminophenyl, 2-naphthylmethyl, 3-butenyl, tert-butylmethyl) were prepared by solid phase synthesis and analyzed by by UV.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 30 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-552560 [53] WPIDS
CROSS REFERENCE: 2001-355946 [37]
DOC. NO. CPI: C2004-202200
TITLE: Novel oligonucleotide or assembly of oligonucleotides comprising first region and second region capable of hybridizing with target nucleic acid sequence, useful in detecting presence or absence of target nucleic acid sequence in sample.
DERWENT CLASS: B04 D16
INVENTOR(S): ALAJEM, S; REINHARTZ, A; WAKSMAN, M
PATENT ASSIGNEE(S): (ALAJ-I) ALAJEM S; (REIN-I) REINHARTZ A; (WAKS-I) WAKSMAN M
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| US 2004142369 | A1 | 20040722 | (200453)* | | 38 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| US 2004142369 | A1 CIP of | US 1999-449545 | 19991129 |
| | Div ex | US 2000-727480 | 20001204 |
| | | US 2003-745509 | 20031229 |

PRIORITY APPLN. INFO: US 2000-727480 20001204; US 1999-449545 19991129; US 2003-745509 20031229
AN 2004-552560 [53] WPIDS
CR 2001-355946 [37]
AB US2004142369 A UPAB: 20040818
NOVELTY - An oligonucleotide or assembly of oligonucleotides (I) useful in detecting presence or absence of target nucleic acid sequence in sample, comprising first region and second region, where at least a portion of the first region and at least a portion of the second region, each capable of hybridizing under predetermined hybridization conditions with the target nucleic acid sequence, is new.

DETAILED DESCRIPTION - An oligonucleotide or assembly of oligonucleotides (I) useful in detecting a presence or an absence of a target nucleic acid sequence in a sample, comprises a first region and a second region, where at least a portion of the first region and at least a portion of the second region, each capable of hybridizing under predetermined hybridization conditions with the target nucleic acid sequence, and a third region and a fourth region, where (a) the third region and the fourth region are linked to the first region and the second region, respectively, (b) the first portion and a second portion of (I) are capable of forming a first duplex structure between them under the predetermined hybridization conditions, (c) the first, second, third and fourth regions of (I) are selected such that upon hybridization under the predetermined hybridization conditions of the first region and the second region with the target nucleic acid sequence, the first duplex structure dissociates and a portion of the third region and a portion of the fourth region form a second duplex structure between them, and (d) the second duplex structure includes a nucleic acid cleaving agent recognition sequence which is absent from the **first** duplex structure and

which, when **cleaved**, indicates hybridization of (I) to the target nucleic acid sequence, thus indicating the presence of the target nucleic acid in the sample.

An INDEPENDENT CLAIM is also included for an oligonucleotide system (II) useful for detecting a presence or absence of a target nucleic acid sequence in a sample, comprising at least a first oligonucleotide and a second oligonucleotide, where each of the first oligonucleotide and the second oligonucleotide include a first region capable of hybridizing with the target nucleic acid sequence under predetermined hybridization conditions, each of the first oligonucleotide and the second oligonucleotide further include a second region, where upon hybridization, at least a portion of the second regions of the first oligonucleotide and the second oligonucleotide form a duplex structure including a nucleic acid cleaving agent recognition sequence, the second regions of the first oligonucleotide and the second oligonucleotide are selected such that in a presence of a nucleic acid cleaving agent recognizing the nucleic acid cleaving agent recognition sequence, only the first oligonucleotide is cleavable by the nucleic acid cleaving agent, each of the first oligonucleotide and a second oligonucleotide including a first region are complementary or substantially complementary to the target nucleic acid sequence, the second regions of the first and second oligonucleotides are complementary or substantially complementary and are selected such that upon annealing between them, the second regions form duplex structure including a nucleic acid cleaving agent recognition sequence, and where under predetermined hybridization conditions the first region of the first oligonucleotide is stably hybridizable with the target nucleic acid sequence only if the first region of the second oligonucleotide is stably hybridizable with the nucleic acid target sequence, and the first oligonucleotide and the second oligonucleotide are stably hybridizable with the target nucleic acid sequence and the second regions of the first oligonucleotide and the second oligonucleotide are stably hybridizable between them only when the first oligonucleotide, the second oligonucleotide and the target nucleic acid sequence are co-annealed.

USE - (I) is useful for detecting a presence or an absence of a target nucleic acid sequence in a sample, which involves contacting the sample with (I) under predetermined hybridization conditions to form a reaction mixture, where a second portion of the third region and a second portion of the fourth region form a second duplex structure between them, adding a nucleic acid cleaving agent to the reaction mixture, such that, if the target nucleic acid sequence is present in the sample, the nucleic acid cleaving agent recognition sequence is formed and cleaved by the cleaving agent, and monitoring cleavage of the nucleic acid cleaving agent recognition sequence by the nucleic acid cleaving agent, where the cleavage of the nucleic acid cleaving agent recognition sequence by the nucleic acid cleaving agent indicates hybridization of (I) to the target nucleic acid sequence, thus indicating the presence of the target nucleic acid in the sample. (II) is useful for detecting a presence or absence of target nucleic acid sequence in a sample, which involves contacting the sample with (II) under hybridization conditions to form a reaction mixture, adding a nucleic acid cleaving agent to the reaction mixture, such that, if the target nucleic acid sequence is present in the sample, the nucleic acid cleaving agent recognition sequence is cleaved by the nucleic acid cleaving agent, and monitoring cleavage of the nucleic acid cleaving agent recognition sequence by the nucleic acid cleaving agent, where the cleavage of the nucleic acid cleaving agent recognition sequence by the nucleic acid cleaving agent indicates hybridization of (II) to the target nucleic acid sequence, thus indicating the presence of the target nucleic acid in the sample. The detection of presence or an absence of cleavage is effected by monitoring the presence or absence of specific cleavage products (all claimed). (I) is useful in biological research and medical diagnostics. The detection of target sequence using (I), is used for identifying and/or type a specific DNA or RNA molecules and to uncover

mutations.

ADVANTAGE - (I) enables a simple and efficient detection of target nucleic acid sequences while reducing the reaction order or the background signal generation. Following the production of a detectable signal, (I) dissociates from the target nucleic acid. The dissociation allows additional oligonucleotides to hybridize with the target and to subsequently to produce additional detectable signals. Thus, if excess amounts of oligonucleotides are used, target recycling is enabled and signal amplification generated.

DESCRIPTION OF DRAWING(S) - The figure shows the structure of the single oligonucleotide and a nucleotide assembly when hybridized to a target nucleic acid sequence.

Dwg.2/12

L8 ANSWER 32 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-364854 [34] WPIDS

DOC. NO. NON-CPI: N2004-291824

DOC. NO. CPI: C2004-137729

TITLE: Probe useful for detecting presence or absence of target ligand and target reaction inducing agent, comprises first pair of nucleic acid sequences, recognition element conjugated to first sequence and detectable label producing signal.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): CHUN, K H; HWANG, H J

PATENT ASSIGNEE(S): (AHRA-N) AHRAM BIOSYSTEMS INC

COUNTRY COUNT: 105

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2004033476 | A1 | 20040422 | (200434)* | EN | 286 |
| RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW | | | | | |
| W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW | | | | | |
| AU 2003269522 | A1 | 20040504 | (200465) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2004033476 | A1 | WO 2003-KR2101 | 20031011 |
| AU 2003269522 | A1 | AU 2003-269522 | 20031011 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| AU 2003269522 | A1 Based on | WO 2004033476 |

PRIORITY APPLN. INFO: US 2002-417864P 20021011

AN 2004-364854 [34] WPIDS

AB WO2004033476 A UPAB: 20040527

NOVELTY - A probe comprises a first pair of nucleic acid sequences consisting of a first object and complement sequence complementary to each other and forming a first hybridized duplex, a recognition element conjugated to first sequence, a detectable label producing a characteristic signal, is new.

DETAILED DESCRIPTION - A probe (I) comprises at least one and preferably all of the following as operably linked components, a first pair of nucleic acid sequences consisting of a first object sequence and a first complement sequence, the first object and first complement sequences each independently having 3-150 nucleotides, being substantially complementary to each other, and forming a first hybridized duplex, a recognition element conjugated to at least one of the first object and first complement sequences, the recognition element specifically interacting with at least one target agent, an optionally detectable label producing a characteristic signal whose level is a function of the amount of the first hybridized duplex, where in the presence of the target agent, the interaction of the target agent with the recognition element alters the amount of the first hybridized duplex compared to that in the absence of the target agent, altering the characteristic signal.

INDEPENDENT CLAIMS are included for the following:

(1) a kit comprising (I) and instructions for performing an assay for detecting a target agent or target ligand, or for detecting inhibitors or enhancers that inhibit or enhance interaction of target agent with the recognition element; and

(2) a target detection system comprising (I).

(3) a method for detecting in a sample the presence or absence of at least one target receptor agent that can selectively bind to a probe ligand, a target reaction inducing agent that can specifically cleave a cleavage site or induce a covalent coupling of a reaction site under the conditions including a detection temperature;

(4) a method for detecting in a sample the presence or absence of at least one target ligand under the conditions including a detection temperature;

(5) a method for detecting in a sample the presence or absence of a target reaction inducing agent that can specifically convert a reaction site to a conjugation or non-conjugatable site under the conditions including a detection temperature;

(6) a method for detecting an inhibitor or enhancer for binding of a receptor agent to a probe ligand, for a reaction inducing agent that can specifically cleaved a cleavage site under the conditions including a detection temperature; and

(7) a method for detecting an inhibitor or enhancer for reaction inducing agent that can specifically induce a covalent coupling of reaction site or convert a reaction site to a conjugation or a non-conjugatable site under the conditions including a detection temperature.

USE - (I) is useful for detecting in a sample the presence or absence of at least one target receptor agent that can selectively bind to a probe ligand, a target reaction inducing agent that can specifically cleave a cleavage site or induce a covalent coupling of a reaction site under the conditions including a detection temperature. (I) is useful for detecting in a sample the presence or absence of at least one target ligand under the conditions including a detection temperature. (I) is also useful for detecting in a sample the presence or absence of a target reaction inducing agent that can specifically convert a reaction site to a conjugation or non-conjugatable site under the conditions including a detection temperature.

(I) is useful for detecting an inhibitor or enhancer for binding of a receptor agent to a probe ligand, for a reaction inducing agent that can specifically cleaved a cleavage site under the conditions including a detection temperature. (I) is also useful for detecting an inhibitor or enhancer for reaction inducing agent that can specifically induce a covalent coupling of reaction site or convert a reaction site to a conjugation or a non-conjugatable site under the conditions including a detection temperature (all claimed).

(I) is useful for detecting a wide spectrum of target agents in a biological, pharmaceutical, industrial, or environmental sample.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of non-competitive version of an affinity probe for detecting binding of a receptor agents in the hybridized and dissociated conformations.

first complement sequence 2a
recognition element 3
coupling element 4
receptor agent 10
probe ligand 11
Dwg.1/52

L8 ANSWER 42 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-787016 [74] WPIDS
CROSS REFERENCE: 1995-006958 [01]; 1995-075253 [10]; 1995-224290 [29]; 1997-511877 [47]; 1999-477860 [40]; 2002-121023 [16]; 2003-298676 [29]
DOC. NO. NON-CPI: N2003-630670
DOC. NO. CPI: C2003-217024
TITLE: Detecting target nucleic acids by providing a detector probe having nucleic acid labeled with two chromophores, adding the probe to a sample having a target strand of nucleic acid, and detecting the target strand of the nucleic acid.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): HERRON, J N; WEI, A
PATENT ASSIGNEE(S): (HERR-I) HERRON J N; (WEIA-I) WEI A
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| US 2003099999 | A1 | 20030529 | (200374)* | | 33 |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| US 2003099999 | A1 | CIP of | US 1993-96338 | 19930723 |
| | | Cont of | US 1995-484563 | 19950607 |
| | | Div ex | US 1997-891114 | 19970710 |
| | | | US 2002-286600 | 20021031 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| US 2003099999 | A1 | CIP of | US 6482655 |

PRIORITY APPLN. INFO: US 1995-484563 19950607; US 1993-96338 19930723; US 1997-891114 19970710; US 2002-286600 20021031

AN 2003-787016 [74] WPIDS
CR 1995-006958 [01]; 1995-075253 [10]; 1995-224290 [29]; 1997-511877 [47]; 1999-477860 [40]; 2002-121023 [16]; 2003-298676 [29]
AB US2003099999 A UPAB: 20031117
NOVELTY - Detecting target nucleic acid, by providing detector probe (DP) having nucleic acid (NA) labeled with two chromophores attached proximate to 3' end and 5' end of NA, where DP is capable of moving between stacked and spaced configuration (SSC), adding DP to sample having target strand (TS) of NA, the configuration of DP moving between SSC upon hybridization of DP to TS of NA, and detecting TS of NA, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a probe capable of hybridizing with a target nucleic acid strand, comprising a nucleotide strand and a pair of (C) attached proximate to 3' and 5' ends of the nucleotide strand, at least one of the pair of (C) comprising a fluorophore, where the pair of (C) interact with one another to quench **fluorescence** when the probe is in a stacked conformation, the pair of (C) exhibit increased **fluorescence** when the probe is in a spaced conformation, and a distance between the pair of (C) is changed upon hybridization of the nucleotide strand with the target nucleic acid strand;

(2) detecting and quantifying (M2) a target nucleic acid;

(3) a probe comprising a nucleotide strand and a pair of (C) attached to the nucleotide strand, at least one of the pair of (C) comprising a fluorophore, where the pair of (C) interact with one another to quench **fluorescence** when the probe is in a stacked conformation and the pair of (C) exhibit increased **fluorescence** when the probe is in a spaced conformation;

(4) a probe capable of hybridizing with a target nucleic acid strand, comprising a nucleotide strand and a pair of (C), each (C) attached proximate to 3' and 5' end of the nucleotide strand, at least one of the pair of (C) comprising a fluorophore, where the pair of (C) interact with one another to quench **fluorescence** where the probe is in a first conformation, the pair of (C) exhibit increased **fluorescence** when the probe is in a second conformation, and the distance between the pair of (C) is changed upon hybridization of the nucleotide strand with the target nucleic acid strand;

(5) a probe comprising a nucleic acid sequence and a pair of (C) attached proximate the 3' and 5' ends of the nucleic acid sequence, at least one of the pair of (C) comprising a fluorophore, where the pair of (C) interact with one another to quench **fluorescence** when the probe is in a first conformation and the pair of (C) exhibit increased **fluorescence** when the probe is in a second conformation;

(6) a system for detecting a target nucleic acid comprising a probe that hybridizes with the target nucleic acid, the probe comprising a nucleic acid sequence and two (C) attached proximate the 3' and 5' ends of the nucleic acid sequence, at least one of the two (C) comprising a fluorophore, where the two (C) interact with one another to quench **fluorescence** when the probe is in a stacked conformation, the pair of (C) exhibit increased **fluorescence** when the probe is in a spaced conformation, and a distance between the pair of (C) is changed upon hybridization of the nucleotide strand with the target nucleic acid strand;

(7) a detector probe comprising an amino acid sequence labeled with two (C), each (C) attached proximate to an end of the amino acid sequence, where DP is of a sufficient length to fold and move between a stacked configuration that exhibits **fluorescence** quenching and a spaced configuration that exhibits **fluorescence**;

(8) a detector probe comprising a peptide epitope labeled with two (C), each (C) attached proximate to an end of the peptide epitope, where DP is of a sufficient length to fold and unfold and move between a stacked configuration that exhibits **fluorescence** quenching and a spaced configuration that exhibits **fluorescence**;

(9) a detector probe (I) comprising an amino acid sequence labeled with two (C), each (C) attached proximate to an end of the amino acid sequence, where DP comprises a first configuration that exhibits **fluorescence** quenching and a second configuration that exhibits **fluorescence**;

(10) a detector probe comprising an amino acid sequence labeled with two (C), each (C) attached proximate to an end of the amino acid sequence, where the two (C) dimerize to form a configuration that exhibits **fluorescence** quenching and where a distance between the two (C) increases to form a configuration that exhibits **fluorescence**;

(11) a system for detecting an analyte comprising, a probe comprising an amino acid sequence and two (C) attached proximate the 3' and 5' ends of the nucleic acid sequence, at least one of the two (C) comprising a fluorophore, where the two (C) interact with one another to quench **fluorescence** when the probe is in a stacked conformation, the pair of (C) exhibit increased **fluorescence** when the probe is in a spaced conformation, and a distance between the pair of (C) is changed upon recognition between DP and the analyte;

(12) a probe capable of recognizing an analyte comprising a linker comprising a first end and a second end, and two (C), one of (C) attached proximate the **first** end of the **linker** and second of (C) attached proximate to the **second** end of the **linker**, at least one of the two (C) comprising a fluorophore, where the two (C) interact with one another to quench **fluorescence** when the probe is in a first conformation, the two (C) exhibit increased **fluorescence** when the probe is in a second conformation, and the distance between the two (C) is changed upon recognition of the analyte by the linker;

(13) a system for detecting an analyte, comprising, a probe comprising a linker and two (C) attached proximate each end of the linker, at least one of the two (C) comprising a fluorophore, where the two (C) interact with one another to quench **fluorescence** when the probe is in a first conformation, the pair of (C) exhibit increased **fluorescence** when the probe is in a second conformation, and a distance between the pair of (C) is changed upon recognition between the probe and the analyte; and

(14) a system for detecting multiple analytes, comprising, several probes, each probe comprising a linker and two (C) attached proximate each end of the linker, several probes having different linkers and (C), at least one of the two (C) comprising a fluorophore, where the two (C) interact with one another to quench **fluorescence** when the probe is in a first conformation, the pair of (C) exhibit increased **fluorescence** when the probe is in a second conformation, and a distance between the pair of (C) is changed upon recognition between the probe and the analyte.

USE - (M1) is useful for detecting a target nucleic acid. (VIII) is useful for detecting an analyte in a sample (claimed).

Dwg.0/27

L8 ANSWER 50 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 2003-340894 [32] WPIDS
DOC. NO. NON-CPI: N2003-272693
DOC. NO. CPI: C2003-089317
TITLE: Improving a **fluorescence** resonance energy transfer-based assay having a dye pair, involves using fluorescein and cyanine 5 as the dye pair.
DERWENT CLASS: B03 B04 D16 E23 S03
INVENTOR(S): CHUI, M; MORTENSEN, B
PATENT ASSIGNEE(S): (CHUI-I) CHUI M; (MORT-I) MORTENSEN B
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| US 2002168641 | A1 | 20021114 | (200332)* | | 16 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| US 2002168641 | A1 | US 2001-803426 | 20010309 |

PRIORITY APPLN. INFO: US 2001-803426 20010309
AN 2003-340894 [32] WPIDS
AB US2002168641 A UPAB: 20030522
NOVELTY - Improving (M1) a **fluorescence** resonance energy transfer (FRET)-based assay having a dye pair, comprising using fluorescein and cyanine 5 as the dye pair, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) detecting (M2) the proximity of a first molecular segment (MS1) to a second molecular segment (MS2), by covalently attaching fluorescein to MS1, covalently attaching cyanine 5 to MS2, and detecting the presence or absence of fluorescein-induced emission of cyanine 5 as a result of FRET when MS1 and MS2 are in proximity to each other;

(2) a composition (I) comprising a first member of a binding pair directly or indirectly attached to fluorescein and a second member of the binding pair directly or indirectly attached to cyanine 5, where the first and second members of the binding pair are associated so that the fluorescein and cyanine 5 are in FRET proximity to each other; and

(3) a compound (II) comprising a first molecular segment covalently bound to fluorescein and a second molecular segment covalently bound to cyanine 5.

USE - M1 is useful for improving a **fluorescence** resonance energy transfer-based assay. M2 is useful for detecting the proximity of a first molecular segment to a second molecular segment. M2 is useful as part of a FRET-based assay (such as heterogeneous assay or homogeneous assay), where the FRET-based assay is used to determine affinity of ligand to a receptor, to detect a target molecule selected from a protein, RNA, DNA, antigen or antibody, or to monitor enzymatic reactions. (All claimed.)

ADVANTAGE - The fluorescein and cyanine 5 dye pair renders washing steps or separation steps obsolete in solution-phase or homogeneous assays, as the dye pair allows for signal differentiation based on proximity of the dye pair to each other. Expense is decreased and complexity is minimized in homogeneous assays as less handling is required. The dye pair is safe and does not require the special precautions taken when using radioactive labels. The addition of the dye pair, also allows for the creation of additional multiplex assays, all within a one pot procedure. The dye pair can be used along with other pairs in multiplex assay. Thus the number of possible assays conducted in a single multiplex assay is increased. Increasing the number of tests performed in a single assay is economical and more efficient than conducting separate, individual assays.

Dwg.0/3

L8 ANSWER 58 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-018741 [01] WPIDS
DOC. NO. CPI: C2003-004523
TITLE: Composition for determining target sequence of contiguous nucleobases, comprises polynucleobase strand and combination oligomer comprising first and second oligomer blocks that are covalently linked to each other.
DERWENT CLASS: B04 D16
INVENTOR(S): COULL, J M; CREASEY, T S; FIANDACA, M J; HYLDIG-NIELSEN, J J; KRISTJANSON, M D; CREASEY, T M
PATENT ASSIGNEE(S): (COUL-I) COULL J M; (CREA-I) CREASEY T S; (FIAN-I) FIANDACA M J; (HYLD-I) HYLDIG-NIELSEN J J; (KRIS-I) KRISTJANSON M D; (BOST-N) BOSTON PROBES INC
COUNTRY COUNT: 98
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|

WO 2002072865 A2 20020919 (200301)* EN 149
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU
SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
US 2003077608 A1 20030424 (200330)
EP 1412517 A2 20040428 (200429) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR
AU 2002250262 A1 20020924 (200433)
JP 2004524032 W 20040812 (200453) 253

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2002072865 | A2 | WO 2002-US7050 | 20020309 |
| US 2003077608 | A1 Provisional | US 2001-274547P | 20010309 |
| | | US 2002-96125 | 20020309 |
| EP 1412517 | A2 | EP 2002-719163 | 20020309 |
| | | WO 2002-US7050 | 20020309 |
| AU 2002250262 | A1 | AU 2002-250262 | 20020309 |
| JP 2004524032 | W | JP 2002-571915 | 20020309 |
| | | WO 2002-US7050 | 20020309 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| EP 1412517 | A2 Based on | WO 2002072865 |
| AU 2002250262 | A1 Based on | WO 2002072865 |
| JP 2004524032 | W Based on | WO 2002072865 |

PRIORITY APPLN. INFO: US 2001-274547P 20010309; US 2002-96125 20020309

AN 2003-018741 [01] WPIDS

AB WO 200272865 A UPAB: 20030101

NOVELTY - A composition (I), comprises a polynucleobase strand (II) and a combination oligomer (III) comprising first and second oligomer blocks (B1,B2) that are covalently linked to each other by a linker of at least three atoms in length, where B1 and B2 are sequence specifically hybridized to a target sequence (TS) of contiguous nucleobases in (II), to form a double stranded TS/(III) complex.

DETAILED DESCRIPTION - A composition (I), comprises a polynucleobase strand (II) and a combination oligomer (III) that comprises a first oligomer block (B1) and a second oligomer block (B2) that are each independently a peptide nucleic acid, PNA chimera or its combination oligomer, where the first and second oligomer blocks are linked covalently to each other by a linker that is at least three atoms in length, and the first and second oligomer blocks are sequence specifically hybridized to a target sequence (TS) of contiguous nucleobases in the polynucleobase strand to form a double stranded target sequence/combination oligomer complex.

INDEPENDENT CLAIMS are also included for:

(1) Forming a combination oligomer from oligomer blocks;

(2) Determining whether or not a combination oligomer binds to a possible binding partner;

(3) Set (S) of two or more two or more independently detectable combination oligomers (III), where in each independently detectable (III), B1 and B2 taken together encode a probing nucleobase sequence that is

designed to sequence specifically hybridize to a target sequence of contiguous nucleobases to form a double stranded target sequence/(III) complex, and the probing nucleobase sequence in each independently detectable (III) differs from the probing nucleobase sequences of the other independently detectable (III) by at least one nucleobase, and each independently detectable combination oligomer contains at least one independently detectable label;

(4) A kit (IV) comprising (S) and optionally one or more oligonucleotides, buffers, nucleotide triphosphates, nucleic acid amplification master mix, and one or more polymerase enzymes;

(5) forming a terminal oligomer block and a condensing oligomer block from a bifunctional single set library;

(6) Compound library (V) comprising:

(a) a bifunctional single set of oligomer blocks that are suitable for producing both terminal oligomer blocks and condensation oligomer blocks by the removal of different protecting groups;

(b) at least one set of terminal oligomer blocks and at least one set of condensing oligomer blocks, where each set of blocks comprises two or more different oligomer blocks, where each set of blocks comprises two or more different oligomers; or

(c) at least one set of terminal oligomer blocks and at least two sets of condensing oligomer blocks, where each set of oligomer blocks comprises two or more different oligomers, all of the oligomer blocks of a set of condensing oligomer blocks contain the same independently detectable reporter moiety and all of the oligomer blocks of the at least one set of terminal oligomer blocks comprise the same quencher moiety; where the oligomer blocks are selected to comprise functional moieties that form a linker of at least atoms in length that covalently links the two-oligomer blocks when a terminal block is condensed with a condensation oligomer block, the oligomer blocks are not support bound, and the oligomer blocks do not comprise nucleobase-protecting groups;

(7) Composition (C) of covalently linked oligomer blocks comprising a segment of formula (F1) A-B-C, where A and C are B1 and B2;

(8) Array (A) of at least two oligomers, where at least one oligomer is a combination oligomer of formula F1; and

(9) Forming (A).

USE - (I) is used for determining a target sequence of contiguous nucleobases, and for determining the zygosity of a nucleic acid for a single nucleotide polymorphism (SNP) (claimed).

The methods, (IV), (V), (C) and (A) are useful in scientific investigation, e.g. for detection, identification and/or enumeration of viruses, bacteria and pathogens in food, beverages, water, pharmaceutical products, personal care products, dairy products, in clinical samples or in samples of plant, animal, human or environmental origin.

The methods, (IV), (V), (C) and (A) are also useful for the analysis of raw materials, equipment, products or processes used to manufacture or store food, beverages, water, pharmaceutical products, personal care products dairy products or environmental samples.

Additionally, the above said methods and materials are useful in areas such as expression analysis, SNP analysis, genetic analysis of humans, animals, fungi, yeast viruses, and plants, therapy monitoring, pharmacogenomics, pharmacogenetics, epigenomics and high throughput screening operations.

(V) is useful for the probe intensive applications because they facilitate the massive, rapid, efficient, and appropriately scaled synthesis of highly selective/discriminating combination oligomers, a requirement that has yet to be adequately fulfilled to thus fully enable these probe or primer intensive applications.

ADVANTAGE - (III) comprising unprotected nucleobases can be efficiently ligated in the absence of a template. The efficiency of ligation also does not appear to be largely dependent upon scale, thereby facilitating a broad range of use, particularly for numerous applications,

where the cost of conventional de novo oligomer synthesis is prohibitive, such as where the amount of oligomer generated can be far in excess of that which is required. The production method of oligomers enables production of oligomers of desired nucleobase sequence in desired quantities and can possibly produce substantial cost savings as compared with de novo methods. (III) can be efficiently and rapidly prepared in a single step from a readily available library of oligomer blocks. This enables to high throughput applications, such as nucleic acid sequencing, SNP analysis and genetic analysis, as hundreds and thousands and possibly millions of probes can be produced in a very time critical manner. (III) has larger Delta Tm as compared with native oligomer and hence they are more specific and discriminating as compared with native oligomers. Hence assays using the oligomers can be performed at ambient temperature.
Dwg.0/31

L8 ANSWER 59 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-713315 [77] WPIDS
DOC. NO. NON-CPI: N2002-562780
DOC. NO. CPI: C2002-202170
TITLE: Nonlinear-active labels attached to target for studying the target using surface-selective nonlinear optical technique, has solid object which provides surface area on which nonlinear-active component is attached.
DERWENT CLASS: A89 B04 D16 P53 P73 S03 S05 X24
INVENTOR(S): SALAFSKY, J S
PATENT ASSIGNEE(S): (SALA-I) SALAFSKY J S
COUNTRY COUNT: 97
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2002061415 | A1 | 20020808 | (200277)* | EN | 35 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW | | | | | |
| W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW | | | | | |
| EP 1364204 | A1 | 20031126 | (200380) | EN | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR | | | | | |
| AU 2001273517 | A1 | 20020812 | (200427) | | |
| US 2004146460 | A1 | 20040729 | (200450) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2002061415 | A1 | WO 2001-US22412 | 20010717 |
| EP 1364204 | A1 | EP 2001-952798 | 20010717 |
| | | WO 2001-US22412 | 20010717 |
| AU 2001273517 | A1 | AU 2001-273517 | 20010717 |
| US 2004146460 | A1 | WO 2001-US22412 | 20010717 |
| | | US 2004-467098 | 20040317 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| EP 1364204 | A1 Based on | WO 2002061415 |
| AU 2001273517 | A1 Based on | WO 2002061415 |

PRIORITY APPLN. INFO: US 2001-265755P 20010201; US 2004-467098 20040317

AN 2002-713315 [77] WPIDS

AB WO 200261415 A UPAB: 20021129

NOVELTY - Nonlinear-active labels (I) attached to a target for studying the target using a surface-selective nonlinear optical technique, comprising a solid object to be used as a scaffold which provides a surface area onto which is attached a nonlinear-active component, is new.

USE - (I) is useful for studying and detecting a target at an interface of interest such as air-water, glass water, solid-water or a solid-air, vapor-liquid, solid-solid, liquid-liquid, cellular or membrane interface. The method involves attaching (I) to the target such as a protein, oligosaccharide, peptide, nucleic acid, liposome, small molecule, oligonucleotide, liposome, biological cell, antibody, antigen, peptide, virus, receptor, drug, enzyme, ligand, or carbohydrate, and measuring the target at the interface using a surface-selective nonlinear optical technique such as second harmonic, sum frequency or difference frequency generation. The targets are derivatized with biotin molecules, and the nonlinear active labels are derivatized with streptavidin. (All claimed). (I) is useful for labeling viruses, cells, proteins, nucleic acids, or other particles, especially biological particles; for determining binding of ligands to receptors or determining ligands that modulate the action of enzymes, for developing antibiotics; and for investigating the ligand-binding site on the antibody molecule which combines with the epitope of an antigen and determining a sequence that mimics an antigenic epitope, for the development of vaccines, diagnostic reagents or compounds useful in therapeutic treatments such as for autoimmune diseases.

DESCRIPTION OF DRAWING(S) - The drawing shows an organic, nonlinear-active moiety or molecule, where X and Z denote functional groups and are reactive towards a target linker surface layer or solid object, Y-Z denotes a linker molecule, and Y is a group which bonds the linker to the nonlinear active moiety or molecule.

Dwg.1a/3

L8 ANSWER 64 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN

ACCESSION NUMBER: 2001-514408 [56] WPIDS

DOC. NO. CPI: C2001-153687

TITLE: Mobility-modifying cyanine dye for molecular probes, comprises hetero aromatic benzazole and benzazolium ring system with specific linking group.

DERWENT CLASS: B04 D16 E23

INVENTOR(S): BENSON, S C; KHAN, S H; MENCHEN, S M; ROSENBLUM, B B

PATENT ASSIGNEE(S): (PEKE) PE CORP; (APPL-N) APPLERA CORP

COUNTRY COUNT: 95

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2001049790 | A2 | 20010712 | (200156)* | EN | 133 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW | | | | | |
| W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW | | | | | |
| AU 2001027569 | A | 20010716 | (200169) | | |
| EP 1244749 | A2 | 20021002 | (200265) | EN | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR | | | | | |
| JP 2003519275 | W | 20030617 | (200349) | | 146 |
| US 6716994 | B1 | 20040406 | (200425) | | |
| EP 1244749 | B1 | 20040901 | (200457) | EN | |

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
DE 60105258 E 20041007 (200466)

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2001049790 | A2 | WO 2001-US152 | 20010103 |
| AU 2001027569 | A | AU 2001-27569 | 20010103 |
| EP 1244749 | A2 | EP 2001-901693 | 20010103 |
| | | WO 2001-US152 | 20010103 |
| JP 2003519275 | W | JP 2001-550324 | 20010103 |
| | | WO 2001-US152 | 20010103 |
| US 6716994 | B1 | US 2000-477270 | 20000104 |
| EP 1244749 | B1 | EP 2001-901693 | 20010103 |
| | | WO 2001-US152 | 20010103 |
| DE 60105258 | E | DE 2001-00105258 | 20010103 |
| | | EP 2001-901693 | 20010103 |
| | | WO 2001-US152 | 20010103 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| AU 2001027569 | A | Based on | WO 2001049790 |
| EP 1244749 | A2 | Based on | WO 2001049790 |
| JP 2003519275 | W | Based on | WO 2001049790 |
| EP 1244749 | B1 | Based on | WO 2001049790 |
| DE 60105258 | E | Based on | EP 1244749 |
| | | Based on | WO 2001049790 |

PRIORITY APPLN. INFO: US 2000-477270 20000104
AN 2001-514408 [56] WPIDS
AB WO 200149790 A UPAB: 20011001
NOVELTY - Mobility-modifying cyanine dye (I) comprises a pair of optionally substituted heteroaromatic benzazole/benzazolium ring systems with a specific group and mobility-modifying group, both attached to the hetero aromatic ring nitrogen of their respective systems. An electron delocalizing bridge connects the two rings through the second carbons.

DETAILED DESCRIPTION - Mobility-modifying cyanine dye (I) comprises:

(i) optionally substituted heteroaromatic benzazole/benzazolium ring system with a linking group of formula -L-LG, and

(ii) another optionally substituted heteroaromatic benzazole/benzazolium ring system having a mobility-modifying group.

Both groups are attached to the hetero aromatic ring nitrogen of their respective systems.

L = a linker, and

LG = a linking group.

An electron delocalizing bridge connects the two rings of (i) and (ii), through the second carbons. The mobility-modifying group has net charge of -2 or less or +1 or greater.

INDEPENDENT CLAIMS are included for the following:

(1) new labeled nucleotides or nucleosides or their analogs or salts, of formula NUC-L'-R41-L-D (II);

(2) a mobility modifying phosphoramidite reagent of formula (III) or (IV) or their salts;

(3) a polynucleotide labelled with (I);

(4) a method for generating labeled primer extension product in which a primer target hybrid is enzymatically extended in the presence of a mixture of enzymatically extendable nucleotides capable of supporting continuous primer extension and a terminator, with the primer or terminator labeled with mobility modifying dye; and

(5) a kit for generating labeled primer extension product.
D = a mobility modifying cyanine dye chromophore;
L = a **first linker** attached to D at the heteroaromatic ring nitrogen;
R41 = a covalent linkage;
NUC = a nucleotide or nucleotide analog;
L' = a **second linker** attached to nucleobase or sugar group of NUC;
Da = a mobility modifying dye chromophore or protected derivative;
L = a **first linker;**
R41a = a bond or covalent linkage, preferably -C(O)NR56;
R56 = H or 1-6C alkyl;
La = a bond or **second linker;**
R60 = phosphite ester protective group;
R61, R62 = 1-6C alkyl, 1-6C alkanyl, 2-6C alkenyl, 2-6C alkynyl, 3-10C cycloalkyl, 5-20C aryl or 6-26C arylalkyl, or
R61 + R62 = 2-10C alkyleno or 2-10 membered heteroalkyleno;
R63 = H or acid-labile hydroxyl protecting group;
B = nucleobase or its protective derivative, and
L' = a bond or second linker.
USE - Used as molecular probes in nucleic acid sequencing reactions, particularly for fluorescence based nucleic acid sequencing applications and 4-color fluorescence based nucleic acid sequencing reactions.
ADVANTAGE - Electrophoretic mobility of polynucleotide is effectively studied by labeling. Since the mobility modified and linking moieties are located at opposite ends of the cyanine dye, high activity for DNA polymerizing enzymes is retained. The polynucleotides labeled with mobility modifying dyes are predictably tuned to match those labeled with other dyes for 4-color fluorescence based nucleic acid sequencing reactions. Since the mobility modifying moiety does not alter the spectral properties of cyanine dye chromophore, the dye is used in fluorescent applications. Automated nucleic acid sequencing may be effected.
Dwg.0/0

L8 ANSWER 70 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 2000-303710 [26] WPIDS
DOC. NO. CPI: C2000-092229
TITLE: Chemical constructs for use in solid phase synthesis comprises a solid support linked via a connecting group, which can be selectively cleaved in two places, to a substrate.
DERWENT CLASS: B04 B05
INVENTOR(S): CARR, R A E; GEHANNE, S; KAY, C; MCKEOWN, S C; MURRAY, P J; PAIO, A; SCICINSKI, J; WATSON, S P; WILLIAMS, G; ZARAMELLA, A; SCICINSKI, J J; WILLIAMS, G M
PATENT ASSIGNEE(S): (GLAX) GLAXO GROUP LTD
COUNTRY COUNT: 90
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2000020357 | A2 | 20000413 | (200026)* | EN | 110 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW | | | | | |
| W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW | | | | | |
| AU 9961121 | A | 20000426 | (200036) | | |
| EP 1119529 | A2 | 20010801 | (200144) | EN | |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI | | | | | |

JP 2002526512 W 20020820 (200258)
EP 1119529 B1 20030917 (200369) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
DE 69911444 E 20031023 (200377)
ES 2207286 T3 20040516 (200434)

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2000020357 | A2 | WO 1999-GB3286 | 19991005 |
| AU 9961121 | A | AU 1999-61121 | 19991005 |
| EP 1119529 | A2 | EP 1999-947750 | 19991005 |
| | | WO 1999-GB3286 | 19991005 |
| JP 2002526512 | W | WO 1999-GB3286 | 19991005 |
| | | JP 2000-574478 | 19991005 |
| EP 1119529 | B1 | EP 1999-947750 | 19991005 |
| | | WO 1999-GB3286 | 19991005 |
| DE 69911444 | E | DE 1999-611444 | 19991005 |
| | | EP 1999-947750 | 19991005 |
| | | WO 1999-GB3286 | 19991005 |
| ES 2207286 | T3 | EP 1999-947750 | 19991005 |

FILING DETAILS:

| PATENT NO | KIND | | PATENT NO |
|---|---|---|---|
| AU 9961121 | A | Based on | WO 2000020357 |
| EP 1119529 | A2 | Based on | WO 2000020357 |
| JP 2002526512 | W | Based on | WO 2000020357 |
| EP 1119529 | B1 | Based on | WO 2000020357 |
| DE 69911444 | E | Based on | EP 1119529 |
| | | Based on | WO 2000020357 |
| ES 2207286 | T3 | Based on | EP 1119529 |

PRIORITY APPLN. INFO: GB 1998-21655 19981005
AN 2000-303710 [26] WPIDS
AB WO 200020357 A UPAB: 20000531
NOVELTY - A chemical construct for use in solid phase synthesis comprises a solid support (Q) linked via a connecting group (Y) to a substrate (R).

DETAILED DESCRIPTION - A chemical construct for use in solid phase synthesis comprises a solid support (Q) linked via a connecting group (Y) to a substrate (R). The connecting group (Y) has two selectively cleavable cleavage sites, the second releases the substrate and the first is between the second site and the support and releases a fragment (Fr) comprising the substrate and a portion of the connecting group. Cleavage at the first site forms or introduces a sensitizing group (G) on the fragment which sensitizes the chemical fragment to instrumental (e.g. mass spectroscopic) analysis.

INDEPENDENT CLAIMS are included for:

(1) a method of analyzing the constructs comprising cleaving the **first cleavage** site and subjecting the chemical fragment to mass spectrometry;

(2) an intermediate chemical construct of formula Q-Y' ;

(3) an intermediate chemical construct of formula Q-L1-Ap

(4) a method of analyzing the constructs comprising cleaving the **first cleavage** site and subjecting the chemical fragment to **ultra-violet, visible** or **fluorescence** spectrophotometric analysis to quantify the substrate (R);

(5) a method of identifying a pharmaceutically useful substrate comprising preparing a library containing a plurality of chemical

constructs and subjecting the library to biological testing.
Y' = reactive or protected form of Y;
Ap = reactive or protected form of A;
L1 = linker group.
USE - The constructs are useful in solid phase synthesis of combinatorial libraries.
Dwg.0/18

L8 ANSWER 74 OF 80 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
ACCESSION NUMBER: 1997-023318 [03] WPIDS
CROSS REFERENCE: 1999-510669 [43]
DOC. NO. NON-CPI: N1997-019317
DOC. NO. CPI: C1997-007600
TITLE: New **fluorescent** labelling complex with large Stokes shift - comprising at least two covalently linked fluoro-chrome(s) containing target binding gp., especially used for labelling DNA probes.
DERWENT CLASS: B04 D16 E24 J04 S03
INVENTOR(S): MUJUMDAR, R B; MUJUMDAR, S R; WAGGONER, A S
PATENT ASSIGNEE(S): (WAGG-I) WAGGONER A S; (UYCA-N) UNIV CARNEGIE MELLON; (MUJU-I) MUJUMDAR R B; (MUJU-I) MUJUMDAR S R
COUNTRY COUNT: 15
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| EP 747700 | A2 | 19961211 | (199703)* | EN | 29 |
| R: AT BE CH DE ES FI FR GB IT LI NL SE | | | | | |
| GB 2301833 | A | 19961218 | (199703) | | 39 |
| CA 2178308 | A | 19961208 | (199715) | | |
| JP 09104825 | A | 19970422 | (199726) | | 21 |
| EP 747700 | A3 | 19970507 | (199731) | | |
| GB 2301833 | B | 19970716 | (199731) | | |
| JP 2843296 | B2 | 19990106 | (199906) | | 20 |
| US 6008373 | A | 19991228 | (200007) | | |
| US 6130094 | A | 20001010 | (200052) | | |
| EP 747700 | B1 | 20011205 | (200203) | EN | |
| R: AT BE CH DE ES FI FR GB IT LI NL SE | | | | | |
| DE 69617531 | E | 20020117 | (200213) | | |
| ES 2170204 | T3 | 20020801 | (200263) | | |
| US 6479303 | B1 | 20021112 | (200278) | | |
| US 6545164 | B1 | 20030408 | (200327) | | |
| US 2003220502 | A1 | 20031127 | (200378) | | |
| US 6673943 | B2 | 20040106 | (200411) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | | APPLICATION | DATE |
|---|---|---|---|---|
| EP 747700 | A2 | | EP 1996-303879 | 19960530 |
| GB 2301833 | A | | GB 1996-11453 | 19960530 |
| CA 2178308 | A | | CA 1996-2178308 | 19960605 |
| JP 09104825 | A | | JP 1996-146333 | 19960607 |
| EP 747700 | A3 | | EP 1996-303879 | 19960530 |
| GB 2301833 | B | | GB 1996-11453 | 19960530 |
| JP 2843296 | B2 | | JP 1996-146333 | 19960607 |
| US 6008373 | A | | US 1995-476880 | 19950607 |
| US 6130094 | A | Div ex | US 1995-476880 | 19950607 |
| | | | US 1998-152009 | 19980911 |
| EP 747700 | B1 | | EP 1996-303879 | 19960530 |
| | | Related to | EP 1999-110086 | 19960530 |

| | | | |
|---|---|---|---|
| DE 69617531 | E | DE 1996-617531 | 19960530 |
| | | EP 1996-303879 | 19960530 |
| ES 2170204 | T3 | EP 1996-303879 | 19960530 |
| US 6479303 | B1 Div ex | US 1995-476880 | 19950607 |
| | | US 1998-151899 | 19980911 |
| US 6545164 | B1 Div ex | US 1995-476880 | 19950607 |
| | | US 1999-413998 | 19991007 |
| US 2003220502 | A1 Div ex | US 1995-476880 | 19950607 |
| | Div ex | US 1999-413998 | 19991007 |
| | | US 2002-300459 | 20021120 |
| US 6673943 | B2 Div ex | US 1995-476880 | 19950607 |
| | Div ex | US 1999-413998 | 19991007 |
| | | US 2002-300459 | 20021120 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| JP 2843296 | B2 Previous Publ. | JP 09104825 |
| US 6130094 | A Div ex | US 6008373 |
| EP 747700 | B1 Related to | EP 943918 |
| DE 69617531 | E Based on | EP 747700 |
| ES 2170204 | T3 Based on | EP 747700 |
| US 6479303 | B1 Div ex | US 6008373 |
| US 6545164 | B1 Div ex | US 6008373 |
| US 2003220502 | A1 Div ex | US 6008373 |
| | Div ex | US 6545164 |
| US 6673943 | B2 Div ex | US 6008373 |
| | Div ex | US 6545164 |

PRIORITY APPLN. INFO: US 1995-476880 19950607; US
1998-152009 19980911; US
1998-151899 19980911; US
1999-413998 19991007; US
2002-300459 20021120

AN 1997-023318 [03] WPIDS
CR 1999-510669 [43]
AB EP 747700 A UPAB: 20040213

Complex (I) comprises first and second fluorochromes (FC1 and FC2), covalently attached by at least 1 linker (LK) for transfer of resonance energy between FC1 and FC2, and at least 1 target bonding gp. (TBG) capable of forming a covalent bond with a target cpd. The wavelength of the emission spectrum of FC2 is longer than that of FC1, and a portion of the absorption spectrum of FC2 overlaps a portion of that of FC1. The combined mol. weight of FC1, FC2 and LK is < 20000 (pref. 500-10000).

Also claimed are :

(1) a **fluorescent** water-soluble labelling complex consisting of (I) (containing at least 1 water-solubilising gp. unreactive with TBG, and in which energy absorbed by excitation of light is transferred to FC2) covalently bonded to a carrier material (CM) via a gp. in CM which reacts with TBG, and

(2) a method for labelling CM , involving incubating an aqueous sample containing CM with (I) (as defined in (1)) for sufficient time to cause covalent bonding of TBG to the complementary gp. in CM.

USE - The use of (I) as a reagent for analysis or detection is claimed. (I) are useful for **fluorescent** labelling of target biological mols. (i.e. CM) such as polynucleic acids, antibodies, enzymes, lipids, carbohydrates , proteins and especially DNA probes, e.g. for use in immunoassays or DNA hybridisation assays. Especially (I) can be used for multi-parameter **fluorescence** cell analysis using a single excitation wavelength, e.g. using flow cytometry, laser confocal microscopy or other detection systems requiring multicolour detection with

single wavelength excitation.

ADVANTAGE - (I) have large Stokes shifts. The resonance energy transfer from an excited donor to a **fluorescent** acceptor provides wavelength shifts of up to 300 nm. (I) have sufficiently low mol. weight to allow labelled materials to penetrate all structures, i.e. they allow much greater penetration into intracellular environments than prior art large phycoerythrin-protein labels. (I) are thus especially suitable for use in DNA probes. (I) can be used in a variety of **fluorescence** applications over a wide range of the **visible** spectrum.

Dwg.3/6

ABEQ GB 2301833 B UPAB: 19970731

A complex comprising: i) a first fluorochrome having first absorption and emission spectra; ii) a second fluorochrome having second absorption and emission spectra, the wavelength of the emission maximum of said second fluorochrome being longer than the wavelength of the emission maximum of said first fluorochrome, and a portion of the absorption spectrum of said second fluorochrome overlapping a portion of the emission spectrum of said **first** fluorochrome; iii) at least one **linker** group for covalently attaching said first and second fluorochromes for transfer of resonance energy transfer between said first and second fluorochromes; iv) at least one target bonding group capable of forming a covalent bond with a target compound wherein the target bonding group is a reactive group for reacting with a functional group on the target material; wherein the combined molecular weight of said **first** and **second** fluorochromes and said **linker** group is less than about 20,000 Daltons.

Dwg.0/0

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| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| FULL ESTIMATED COST | 218.15 | 218.36 |

| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| CA SUBSCRIBER PRICE | -4.20 | -4.20 |

STN INTERNATIONAL LOGOFF AT 21:36:45 ON 10 NOV 2004